

Cardiovascular Disease (CVD) in Texas

A Surveillance Report And Program Strategies 2003

Cardiovascular Health and Wellness Program
Bureau of Chronic Disease & Tobacco Prevention
Texas Department of Health

Burden of CVD

- ◆ Leading cause of death in Texas and in the United States
- ◆ Account for 2 out of every 5 deaths
- ◆ Claims more than 55,000 lives each year in Texas

STRATEGIES

- ◆ Surveillance, Data and Outcome Management
- ◆ Health Education and Outreach
- ◆ Clinical Prevention and Treatment Services
- ◆ Community Policy and Environmental Changes

SURVEILLANCE

CVD SURVEILLANCE SYSTEM

- ◆ Mortality Data
- ◆ Hospital Discharge Data Set
- ◆ Behavioral Risk Factor Survey Data
- ◆ Youth Surveys
- ◆ Health Plan Employer Data and Information Set (HEDIS)

MORTALITY DATA

Mortality Data

- ◆ **Death certificate data** were compiled and tabulated by the Statistical Services Division of the Texas Department of Health's Bureau of Vital Statistics
- ◆ **Trend data reviewed from 1990-1998**
- ◆ Sex-, race- and age-specific mortality data were computed for 1999 through 2001
- ◆ **All death rates are age-adjusted using the 2000 US standard population**

MAPS

- ◆ This publication also includes maps of selected chronic disease death rates and related risk factors for the state as a whole and for each public health region
- ◆ The maps allow the reader to identify areas in the state with high rates and areas with low rates.

MAPS

- ◆ Although county rates provide a high degree of specificity, rates in counties with small populations and few deaths for a specific condition can be unstable
- ◆ Thus, data estimates at the Public Health Region (PHR) level were calculated

MAPS

- ◆ For each map, Public Health Region specific rates were ranked from highest to lowest and then categorized into quantiles
- ◆ The maps also use a graded color scheme to differentiate each quantile, with the darkest color representing public health region areas with the highest rates and the lightest color representing areas with the lowest rates

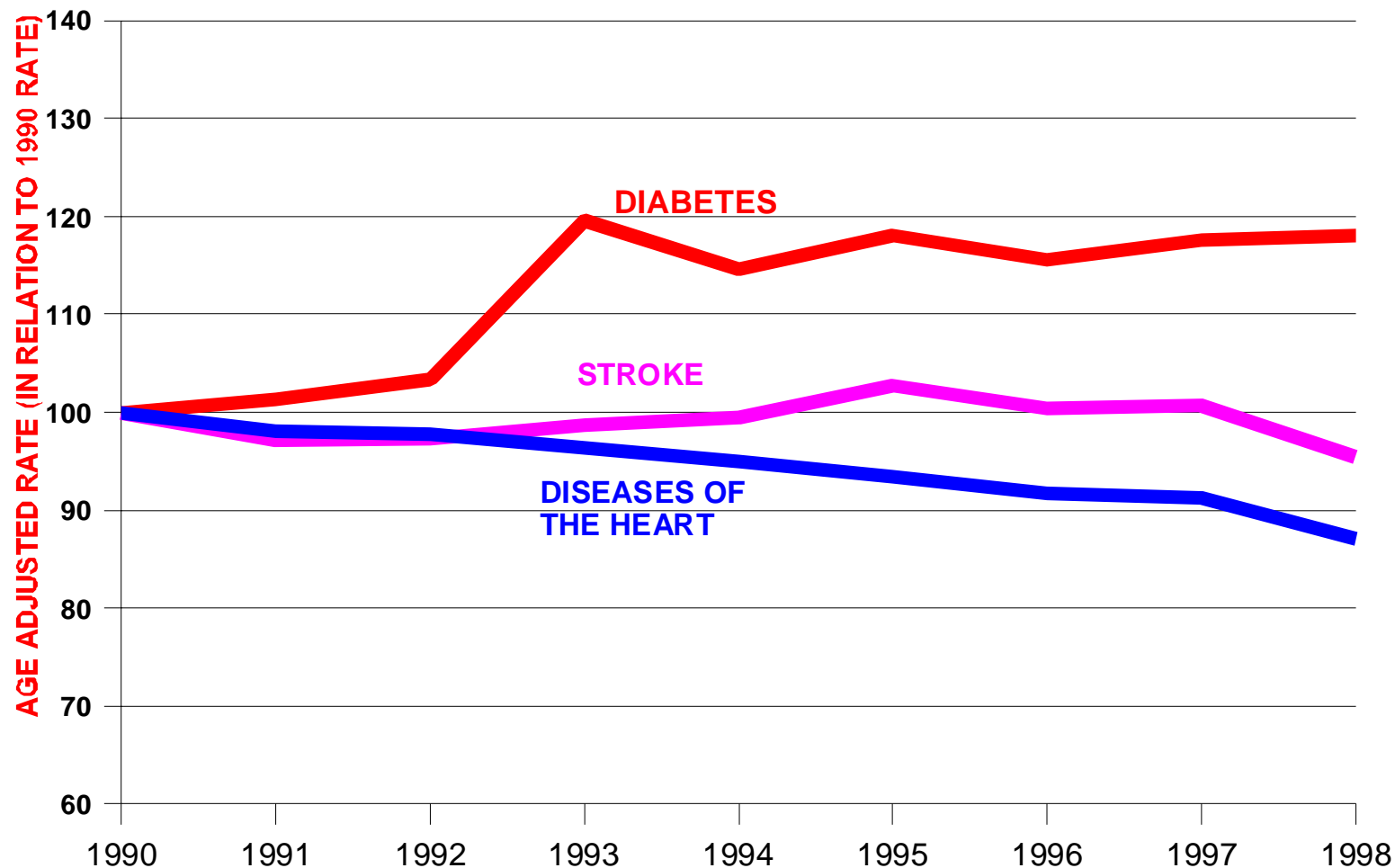


Mortality Data Trends



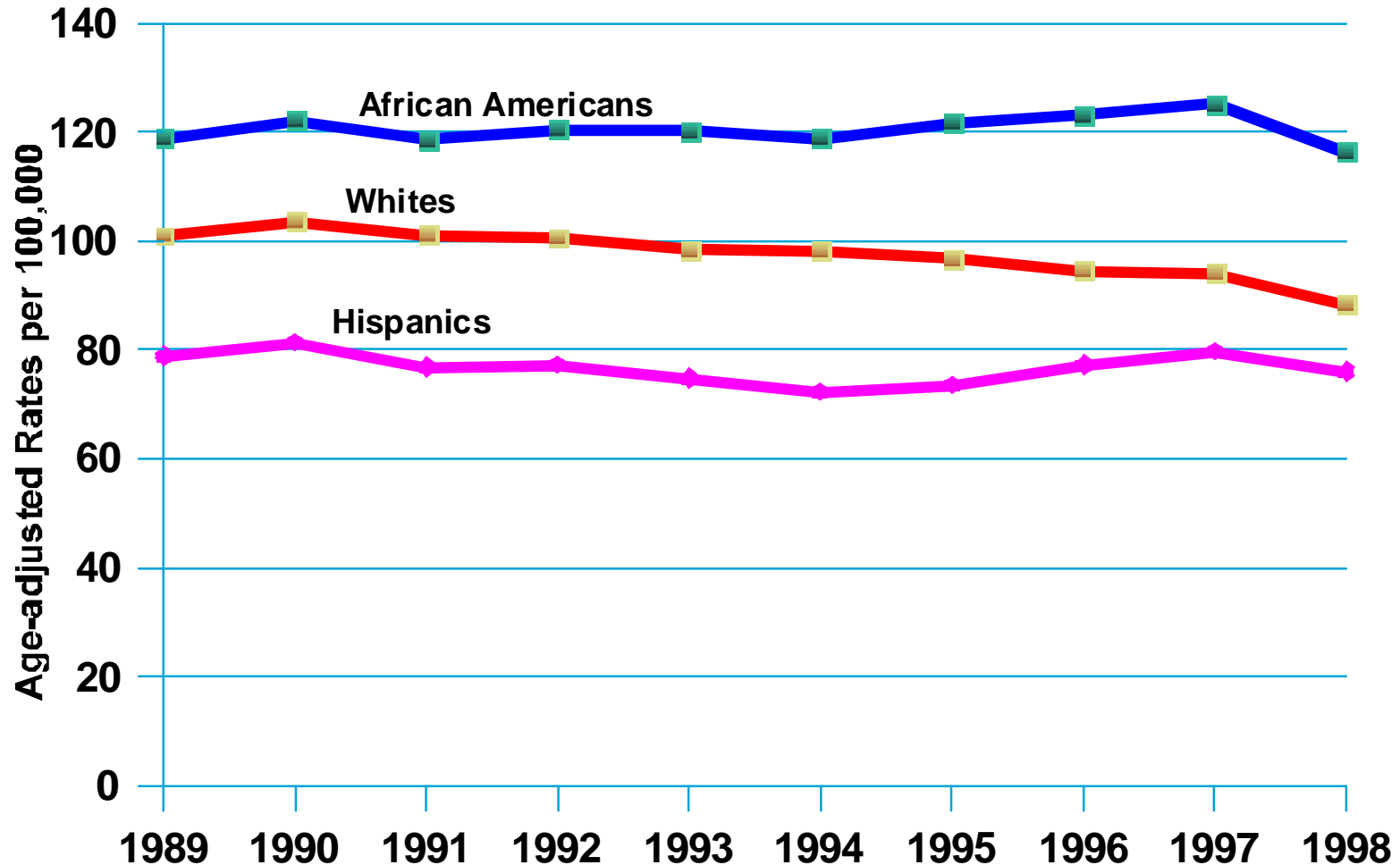
Trends in Selected Causes of Death

Texas, 1990-1998



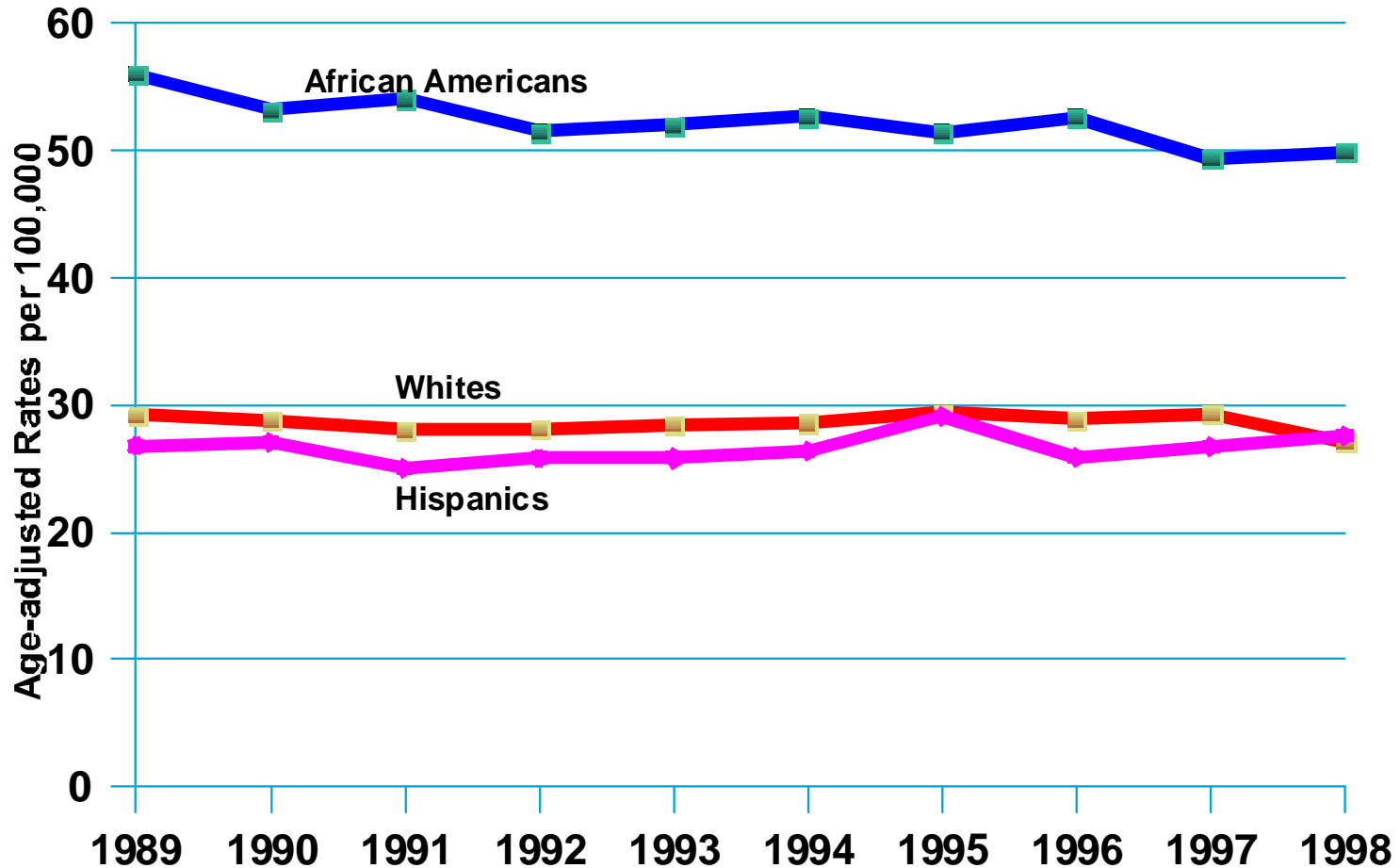
Ischemic Heart Disease

Ten-Year Mortality Trends by Race, Texas 1989-1998



Stroke

Ten-Year Mortality Trends by Race, Texas 1989-1998



Changes in Mortality Data Reporting

- ◆ ICD 9 to ICD 10
- ◆ New population standard was used for age standardization (age adjustment) of death rates. The new standard is based on the year 2000 population and replaces used of the 1940 standard population



Mortality Data 1999-2001

Leading Causes of Death

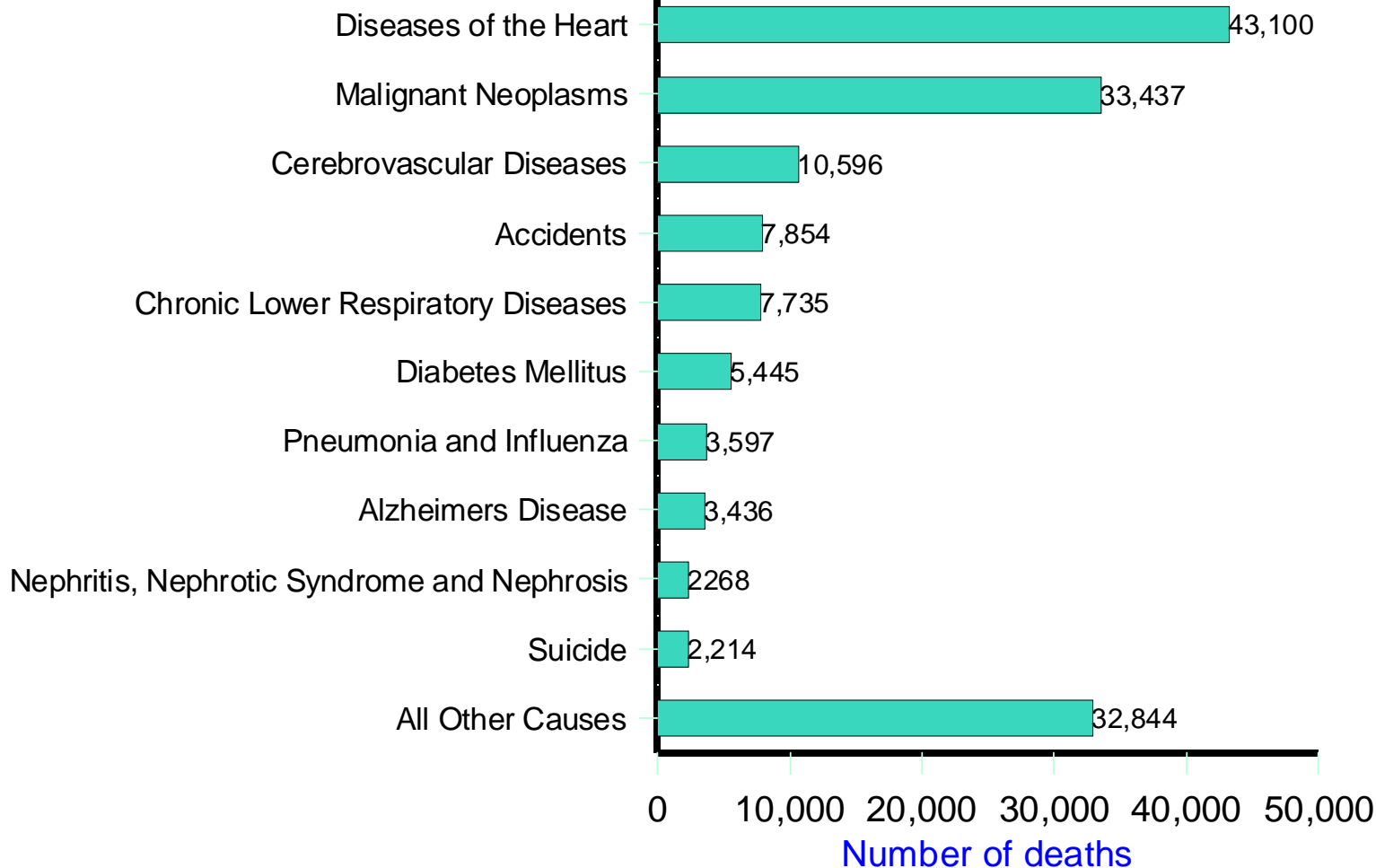
Texas

Race Groups

Age Groups

LEADING CAUSES OF DEATH

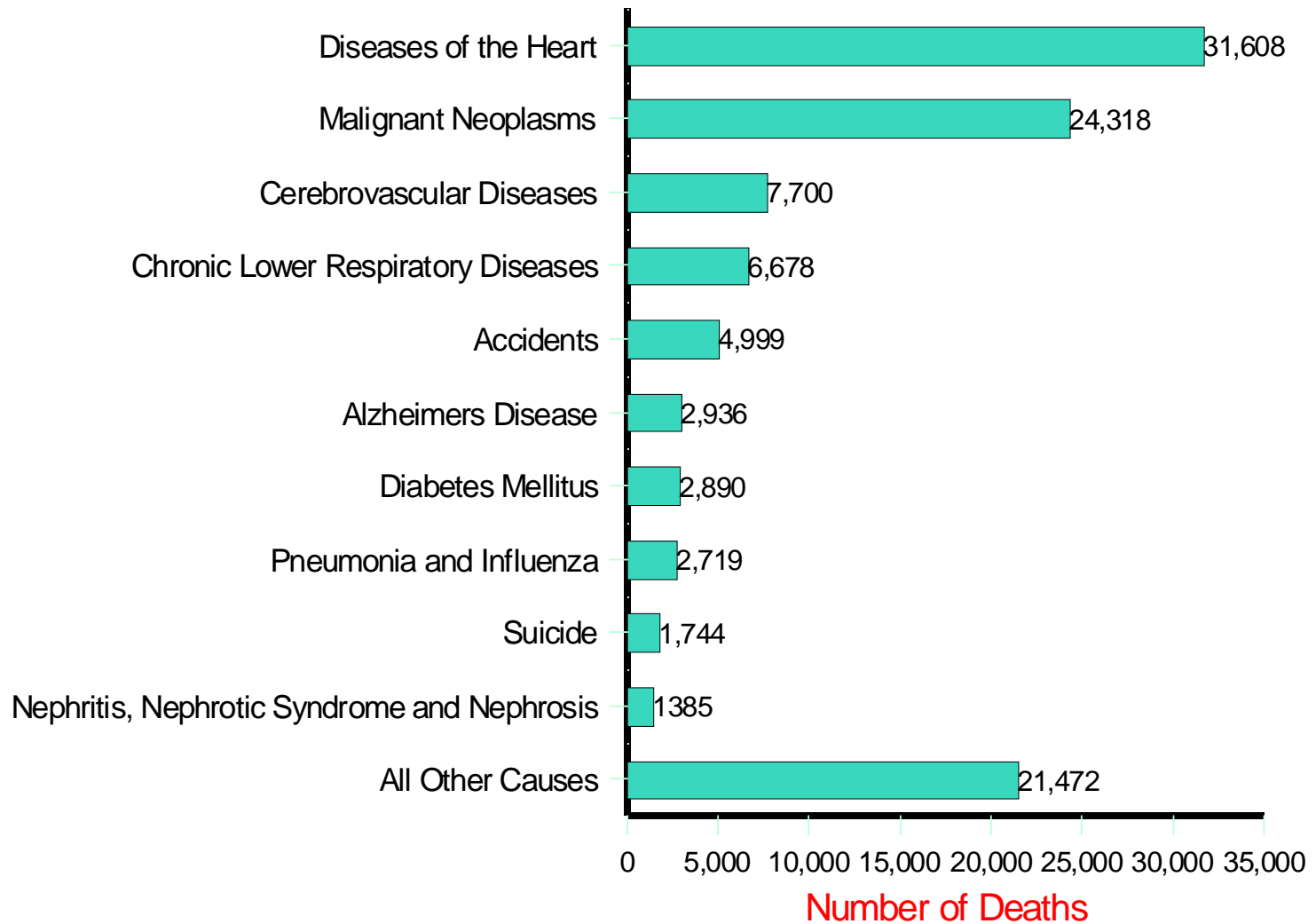
Texas, 2001



Race Groups

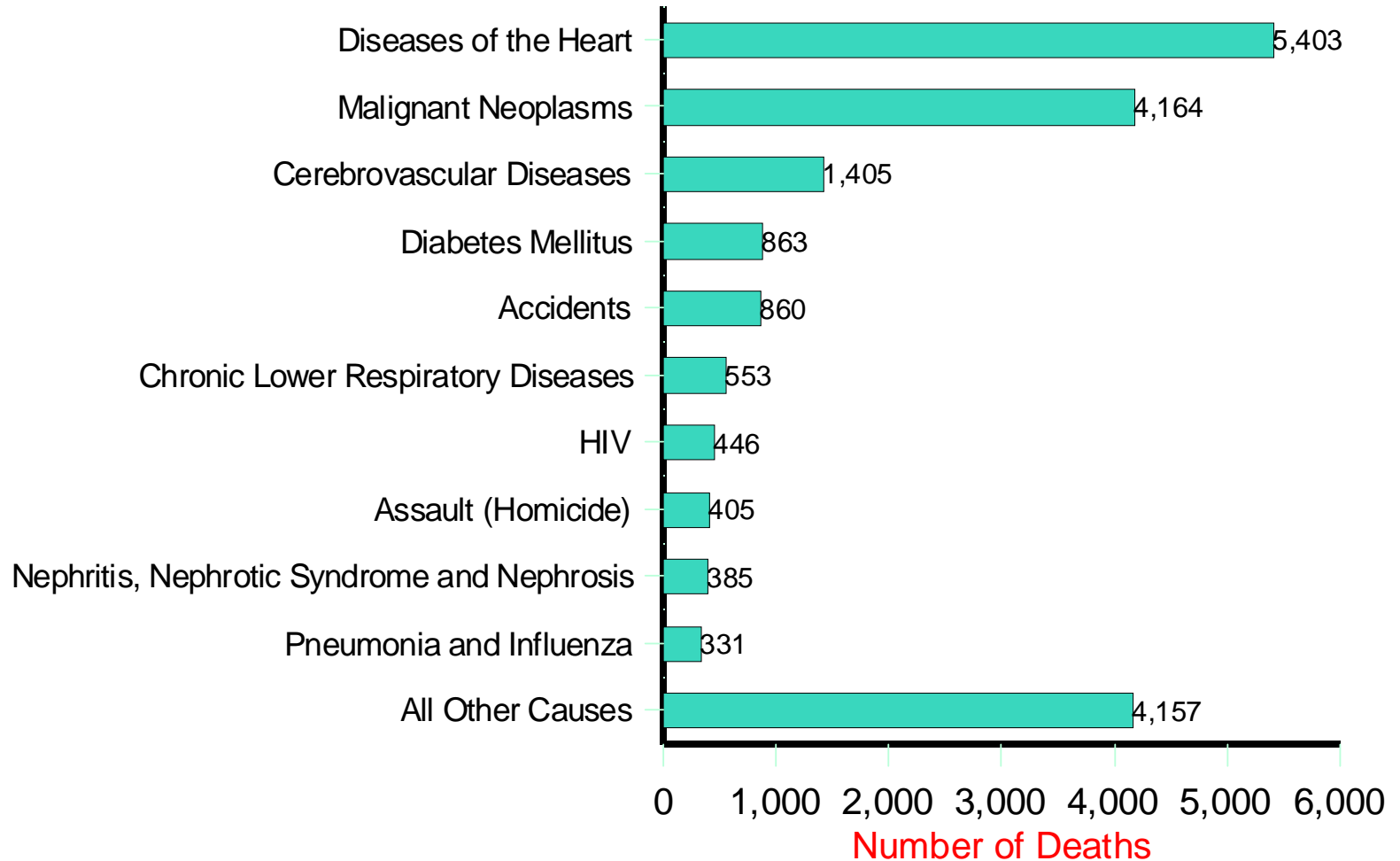
LEADING CAUSES OF DEATH, TEXAS

Whites, 2001



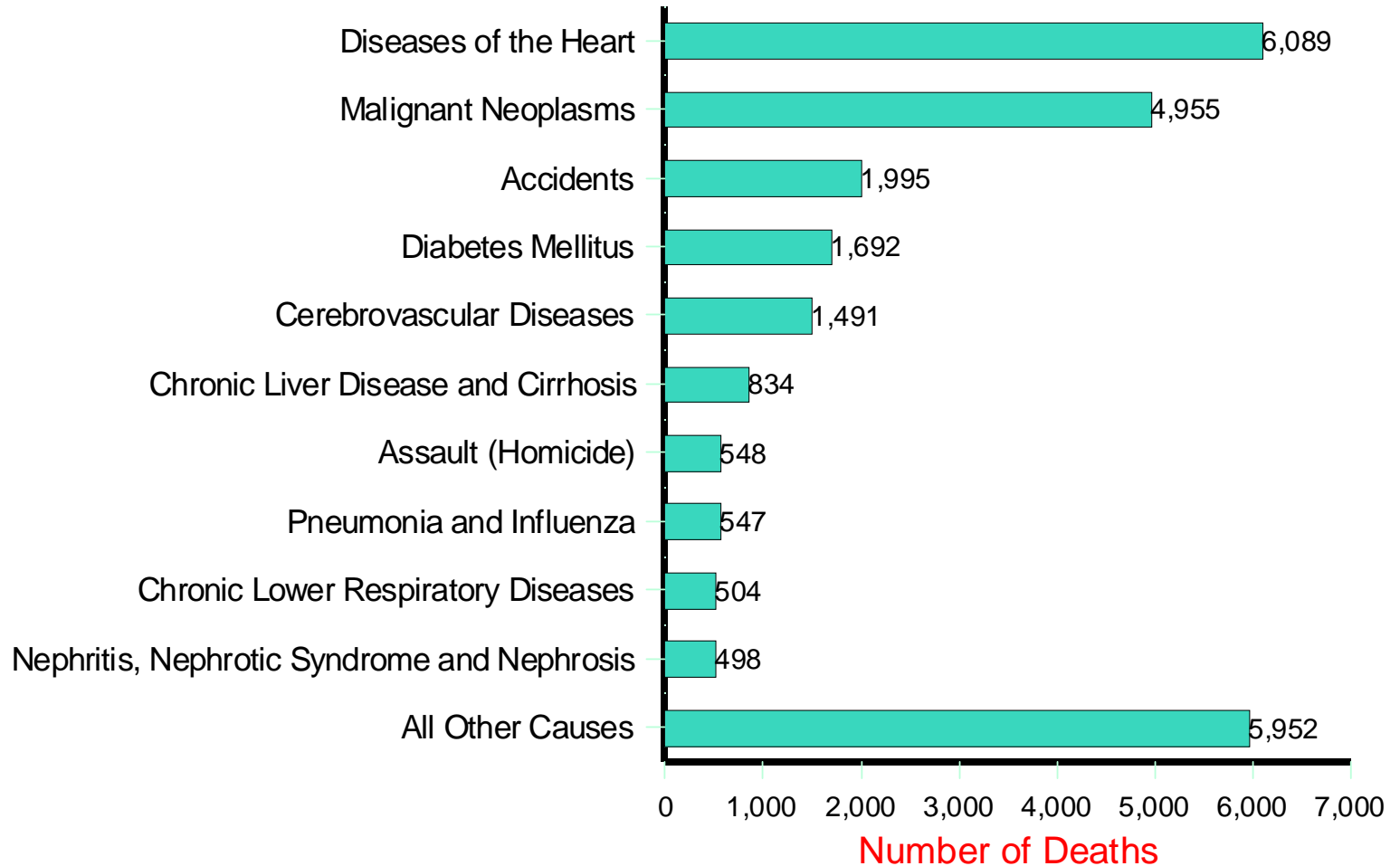
LEADING CAUSES OF DEATH, TEXAS

African Americans, 2001



LEADING CAUSES OF DEATH, TEXAS

Hispanics, 2001



AGE GROUPS

10 LEADING CAUSES OF DEATHS BY AGE GROUP TEXAS, 1999-2001

AGE GROUPS

RANK	<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75+	TOTAL
1	Certain Conditions Originating in the Perinatal Period	Accidents	Accidents	Accidents	Accidents	Accidents	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Diseases of the Heart	Diseases of the Heart
2	Congenital Malformations	Congenital Malformations	Malignant Neoplasms	Assault (Homicide)	Intentional Self-Harm (Suicide)	Malignant Neoplasms	Diseases of the Heart	Diseases of the Heart	Diseases of the Heart	Malignant Neoplasms	Malignant Neoplasms
3	Accidents	Malignant Neoplasms	Assault (Homicide)	Intentional Self-Harm (Suicide)	Assault (Homicide)	Diseases of the Heart	Accidents	Diabetes Mellitus	Chronic Lower Respiratory Diseases	Cerebrovascular Diseases	Cerebrovascular Diseases
4	Diseases of the Heart	Assault (Homicide)	Intentional Self-Harm (Suicide)	Malignant Neoplasms	Malignant Neoplasms	HIV Disease	Chronic Liver Disease and Cirrhosis	Chronic Lower Respiratory Diseases	Cerebrovascular Diseases	Chronic Lower Respiratory Diseases	Chronic Lower Respiratory Diseases
5	Septicemia	Diseases of the Heart	Congenital Malformations	Diseases of the Heart	HIV Disease	Intentional Self-Harm (Suicide)	Cerebrovascular Diseases	Cerebrovascular Diseases	Diabetes Mellitus	Influenza and Pneumonia	Accidents
6	Influenza and Pneumonia	Influenza and Pneumonia	Diseases of the Heart	Congenital Malformations	Diseases of the Heart	Chronic Liver Disease and Cirrhosis	Diabetes Mellitus	Accidents	Accidents	Alzheimer's Disease	Diabetes Mellitus
7	Assault (Homicide)	Septicemia	Chronic Lower Respiratory Diseases	HIV Disease	Cerebrovascular Diseases	Assault (Homicide)	Intentional Self-Harm (Suicide)	Chronic Liver Disease and Cirrhosis	Chronic Liver Disease and Cirrhosis	Diabetes Mellitus	Influenza and Pneumonia
8	Nephritis, Nephrotic Syndrome and Nephrosis	Certain Conditions Originating in the Perinatal Period	Influenza and Pneumonia	Influenza and Pneumonia	Diabetes Mellitus	Cerebrovascular Diseases	HIV Disease	Septicemia	Influenza and Pneumonia	Accidents	Alzheimer's Disease
9	Malignant Neoplasms	Cerebrovascular Diseases	Benign Neoplasms	Cerebrovascular Diseases	Chronic Liver Disease and Cirrhosis	Diabetes Mellitus	Chronic Lower Respiratory Diseases	Intentional Self-Harm (Suicide)	Septicemia	Septicemia	Chronic Liver Disease and Cirrhosis
10	Meningitis	Meningitis	Septicemia	Diabetes Mellitus	Influenza and Pneumonia	Influenza and Pneumonia	Assault (Homicide)	Influenza and Pneumonia	Nephritis, Nephrotic Syndrome and Nephrosis	Nephritis, Nephrotic Syndrome and Nephrosis	Intentional Self-Harm (Suicide)

Ischemic Heart Disease

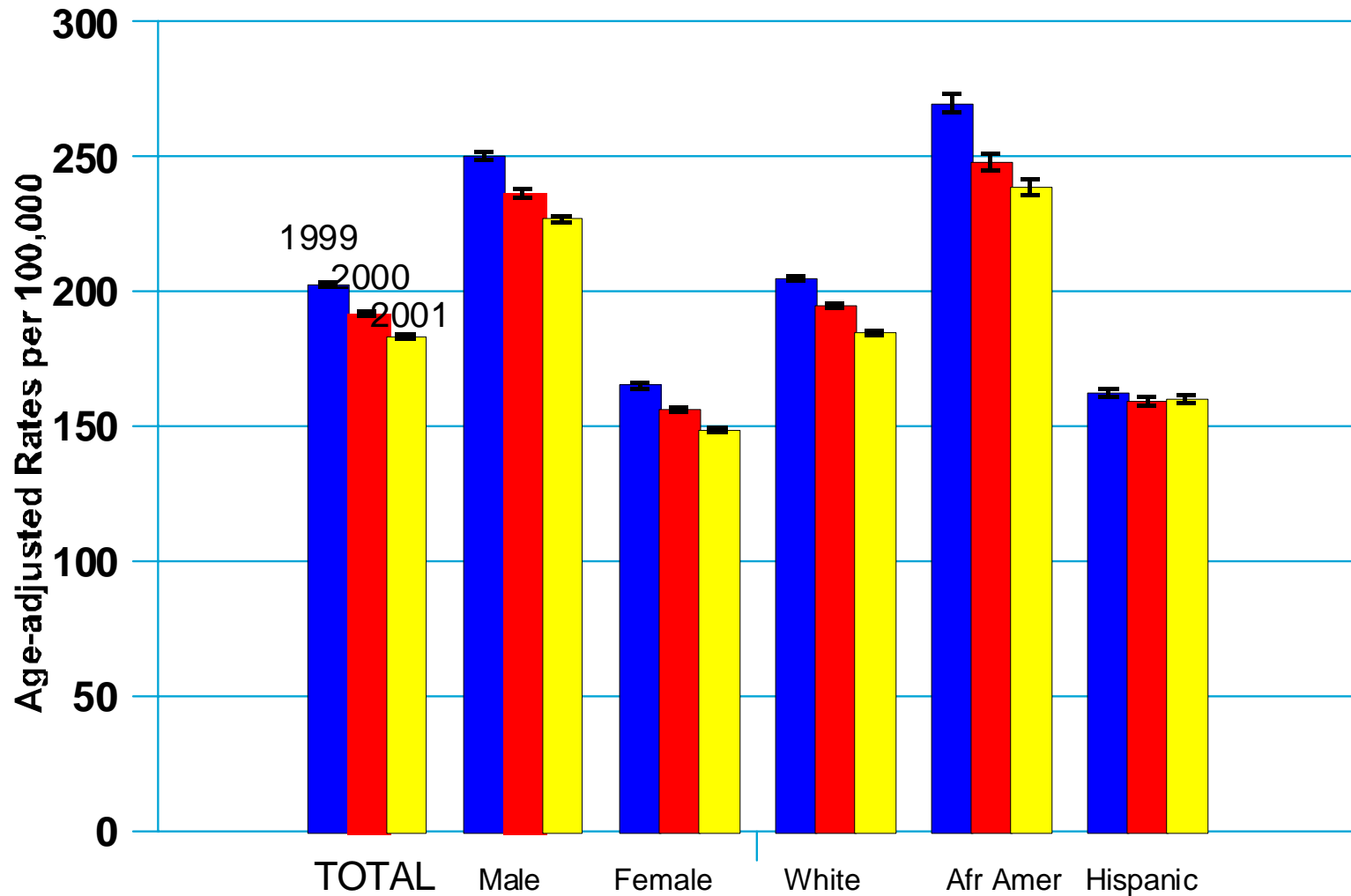
1999-2001

Ischemic Heart Disease

Mortality rate differences by
gender and race groups

Ischemic Heart Disease

Sex and Race, Texas 1999-2001



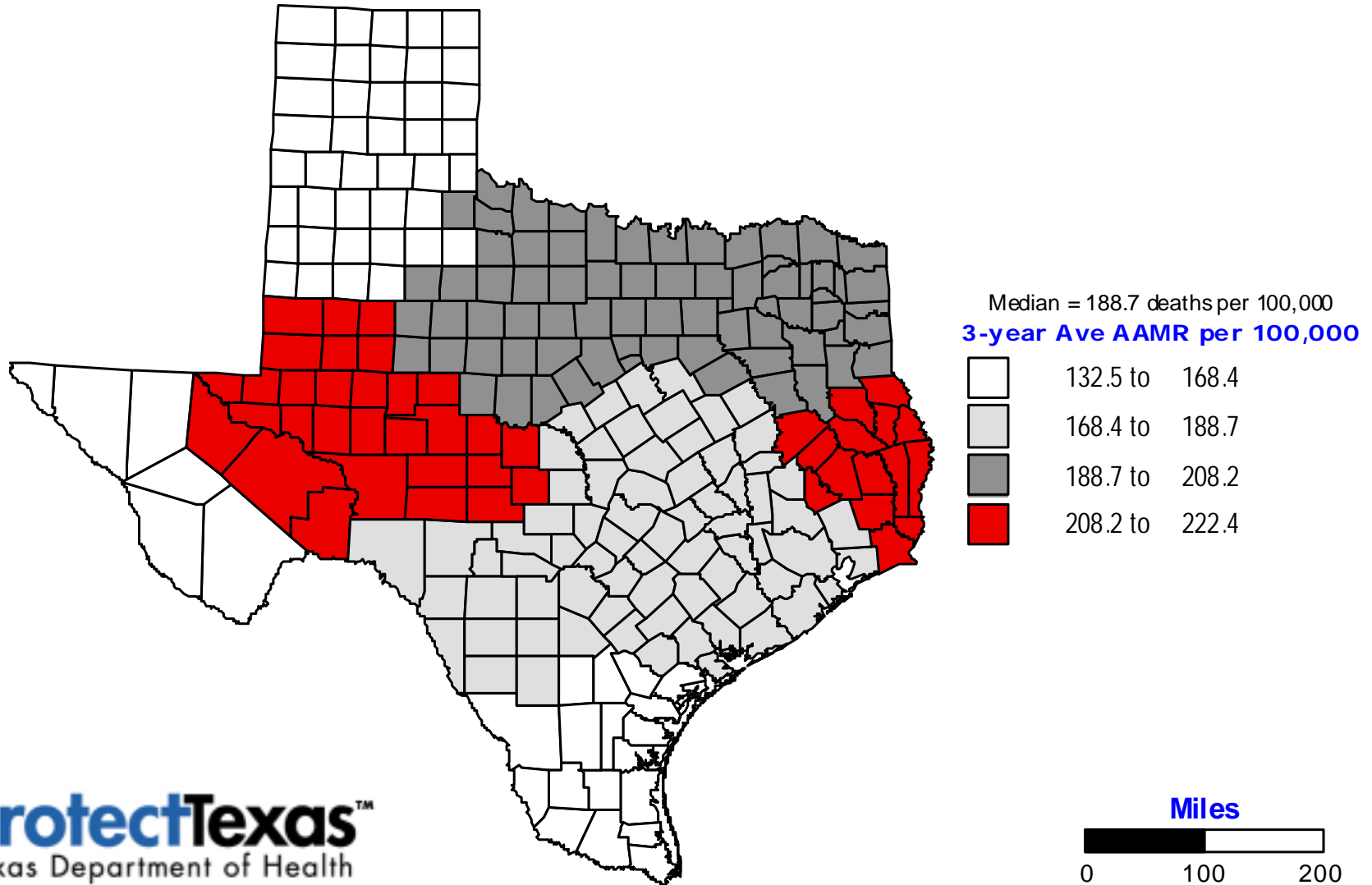
Ischemic Heart Disease

Mortality rate differences at
the public health region level

Deaths Due to Ischemic Heart Disease

3-year Average Age-adjusted Mortality Rates (AAMR)

Texas, 1999-2001



Stroke

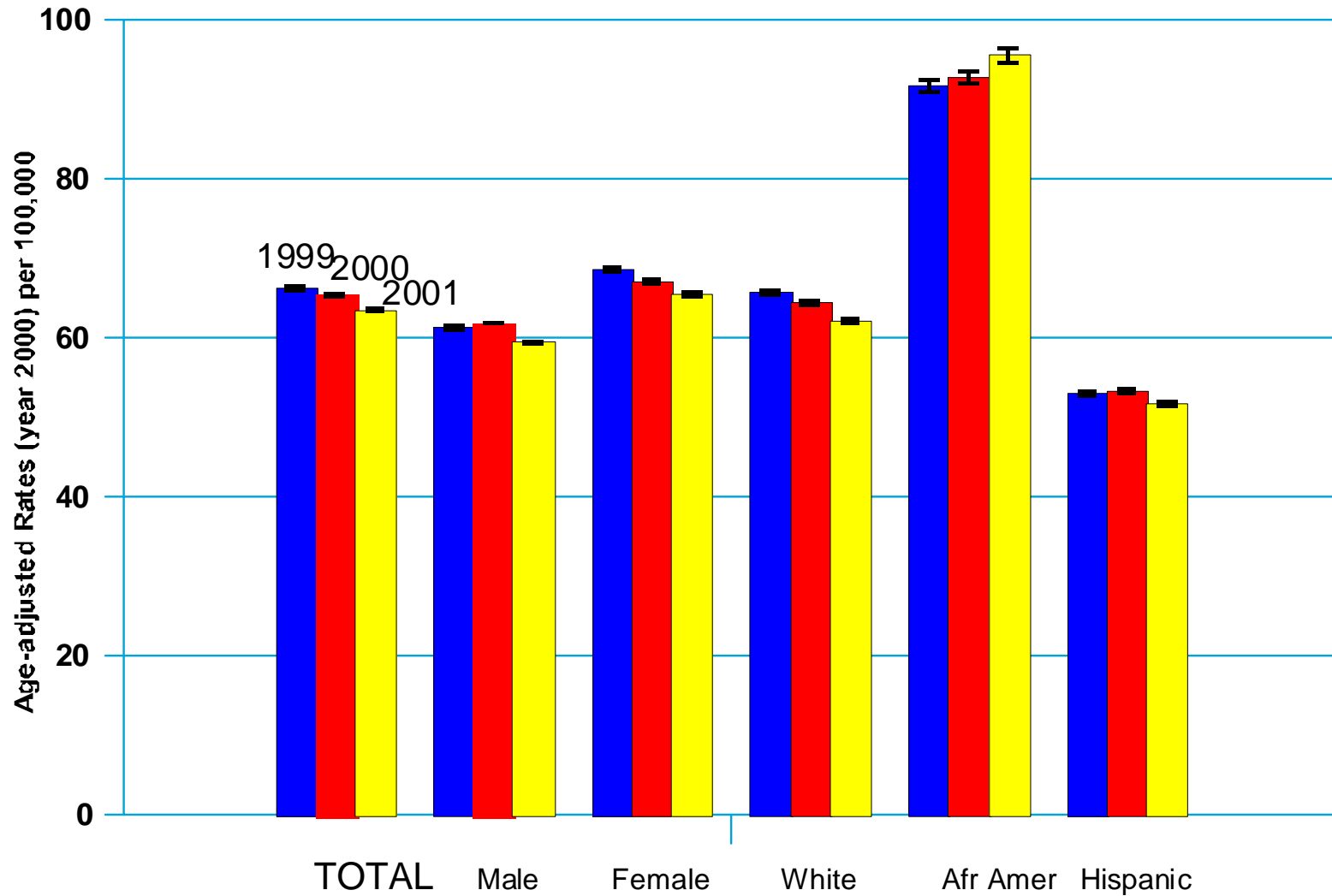
1999-2001

Stroke

Mortality rate differences by
gender and race groups

Stroke

Sex and Race, Texas 1999 - 2001



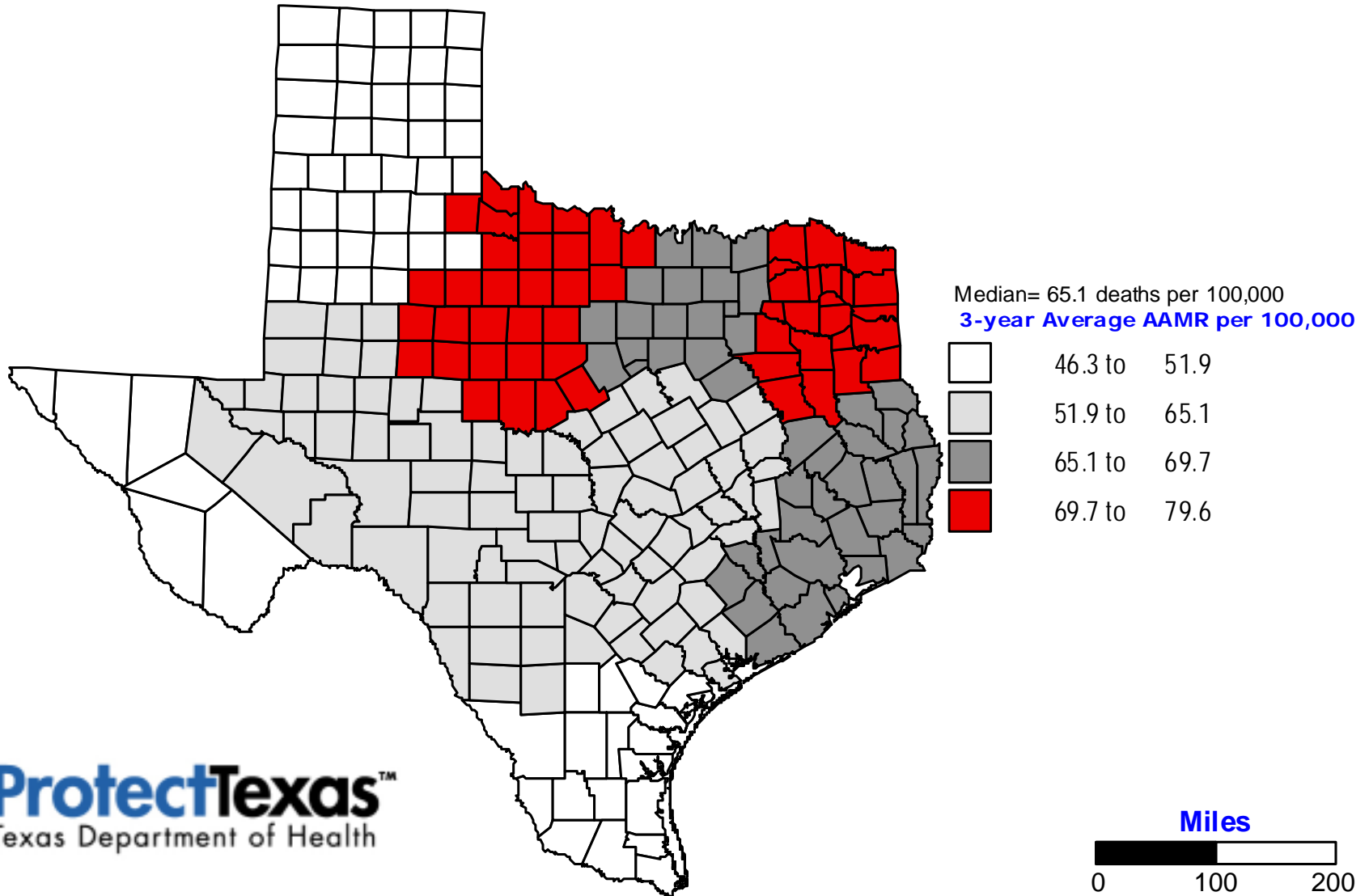
Stroke

Mortality rate differences at
the public health region level

Deaths Due to Stroke

3-year Average Age-adjusted Mortality Rates (AAMR)

Texas, 1999-2001



Cardiovascular Related Prevalence

	<u>Prevalence</u> 2001	<u>Est population</u> <u>18+</u>
MI	3.6%	548,000
Angina Pectoris	4.2%	590,000
Stroke	2.3%	350,000

Hospital Discharge Data

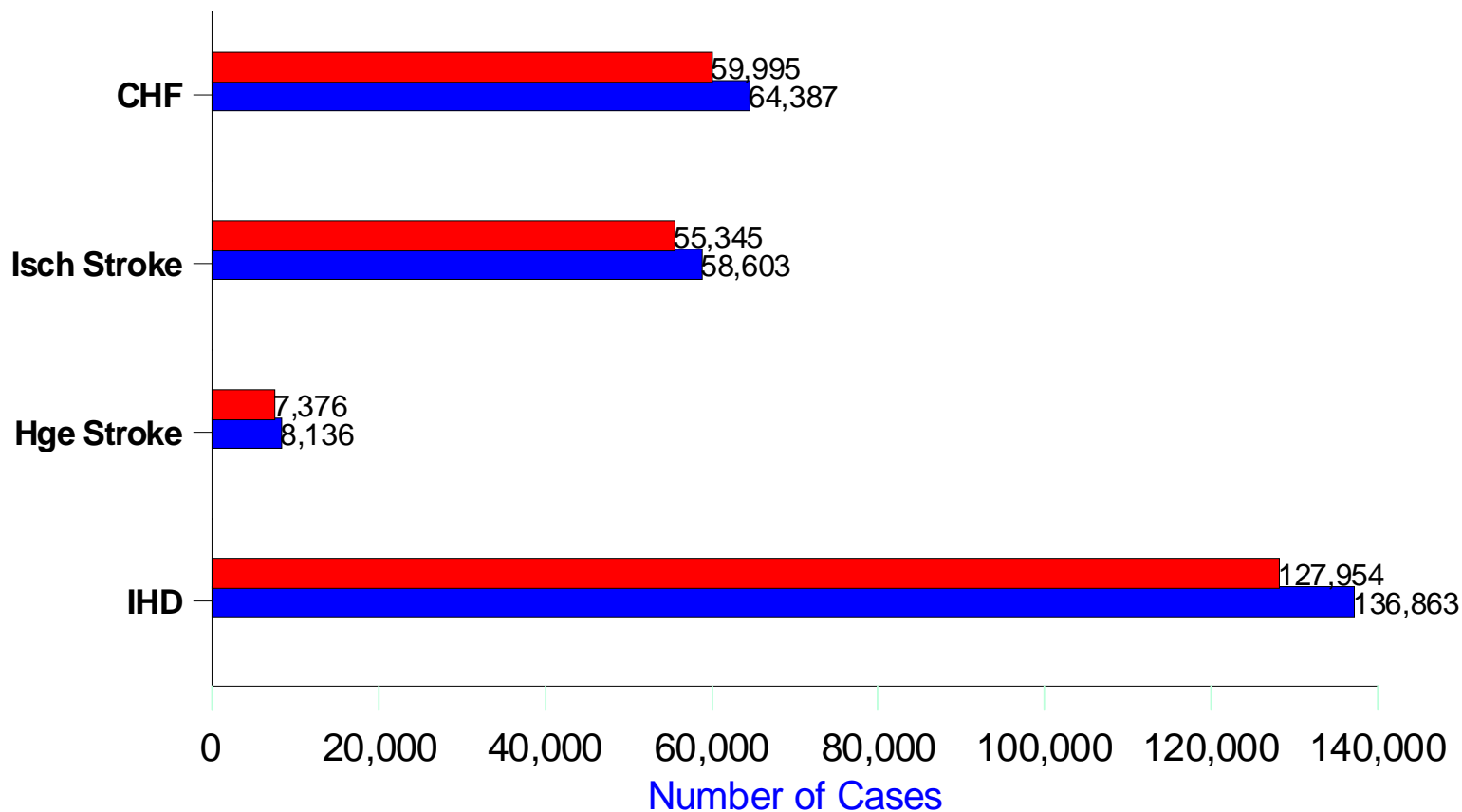
2000 & 2001

Hospital Discharge Data

- ◆ Hospital discharge data were compiled and tabulated by the Texas Health Care Information Council (THCIC). They are required to provide public use data file (PUDF) for computer-to-computer access.
- ◆ The PUDF contains patient level information for inpatient hospital stays

Number of selected first-listed diagnoses for hospital discharges

Texas, 2000-2001

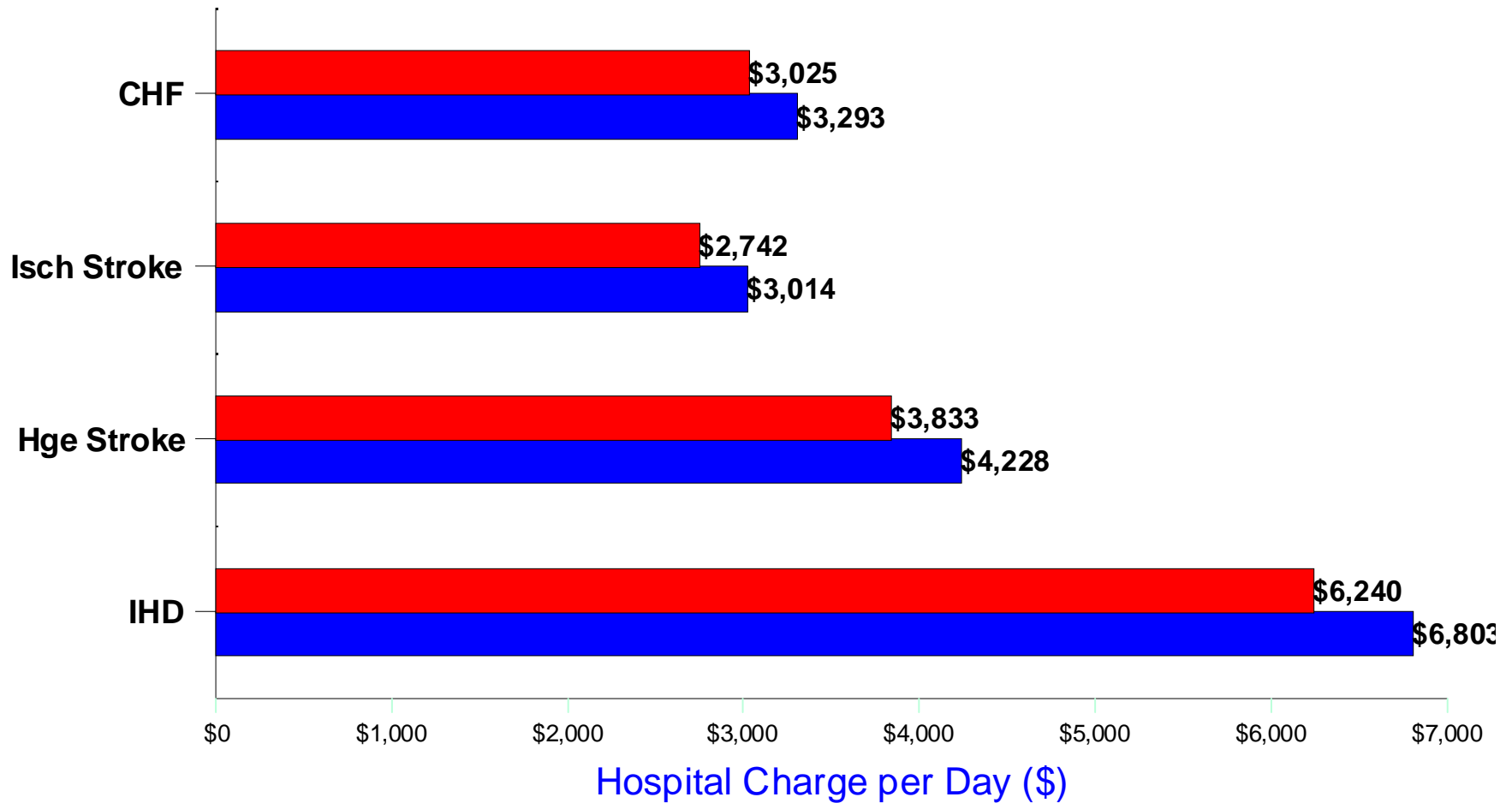


2000 2001

Estimated Hospital Charges

Average Hospital Charge per Day for Selected CVD Diagnoses

Texas, 2000-2001



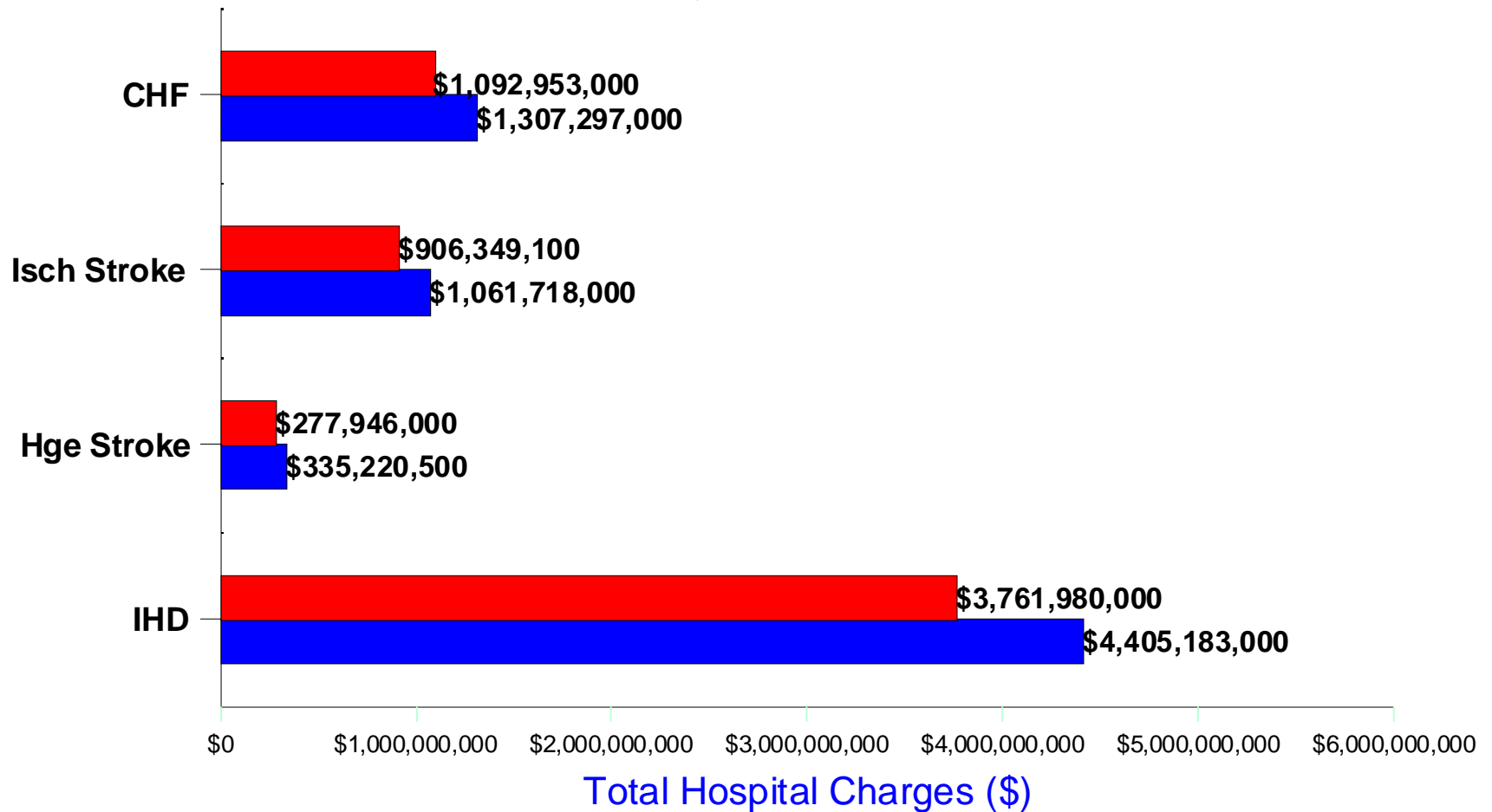
2000



2001

TOTAL Hospital Charges for Selected CVD DIAGNOSES

Texas, 2000-2001



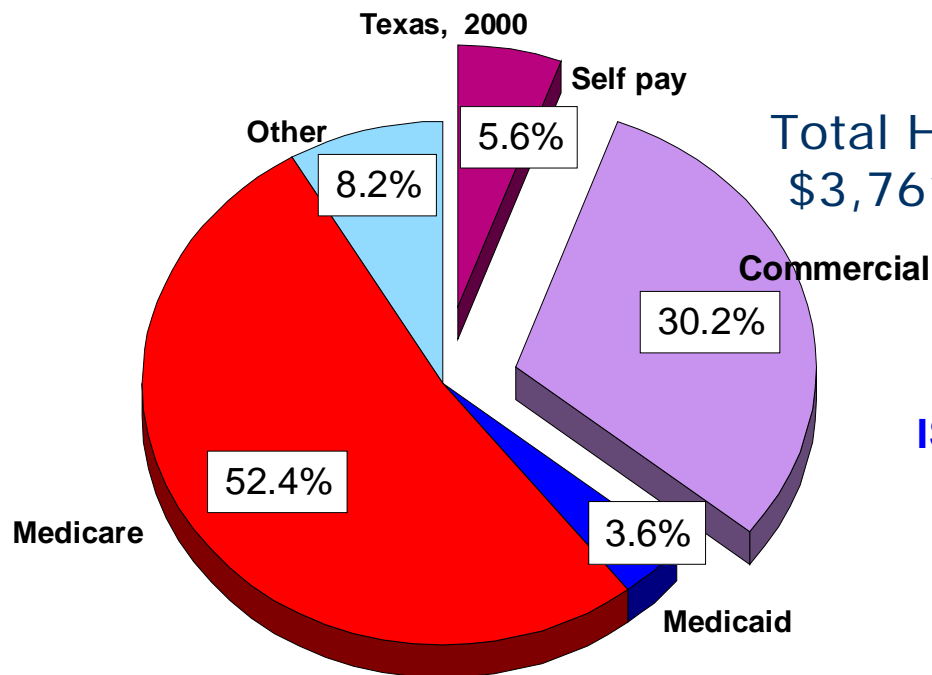
2000



2001

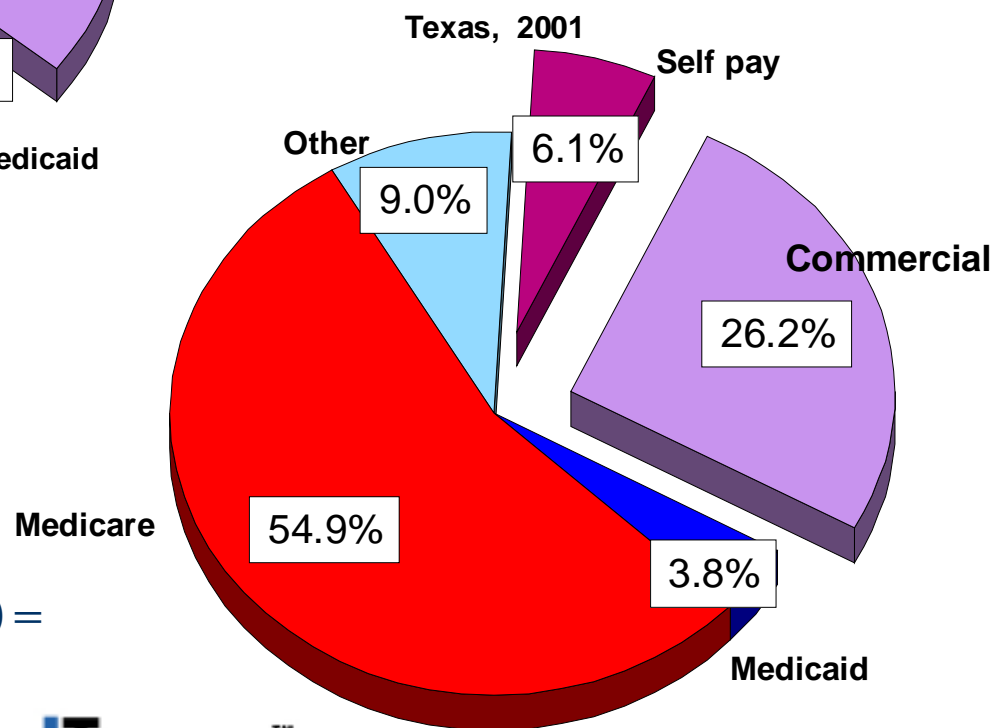
% Distribution of Hospital Charges by Payer

ISCHEMIC HEART DISEASE



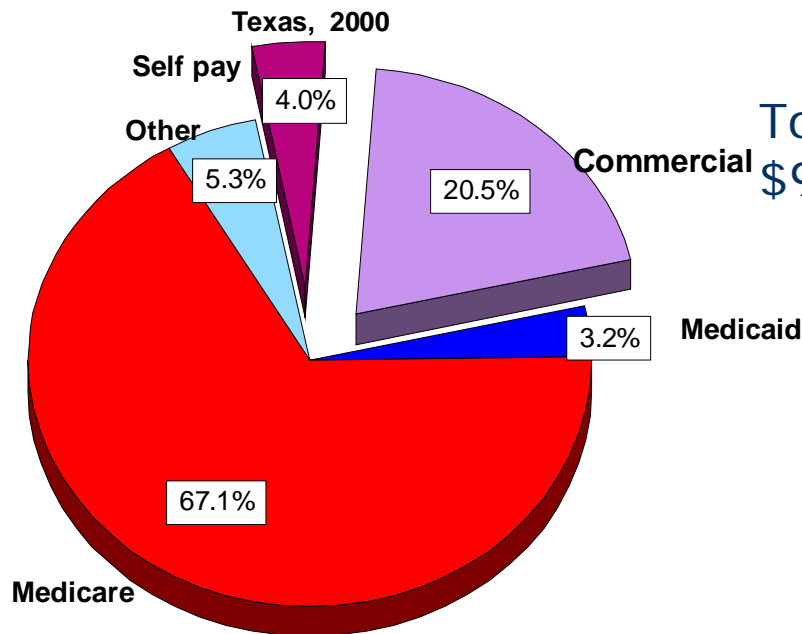
Total Hospital Charge (2000) =
\$3,761,980,000

ISCHEMIC HEART DISEASE



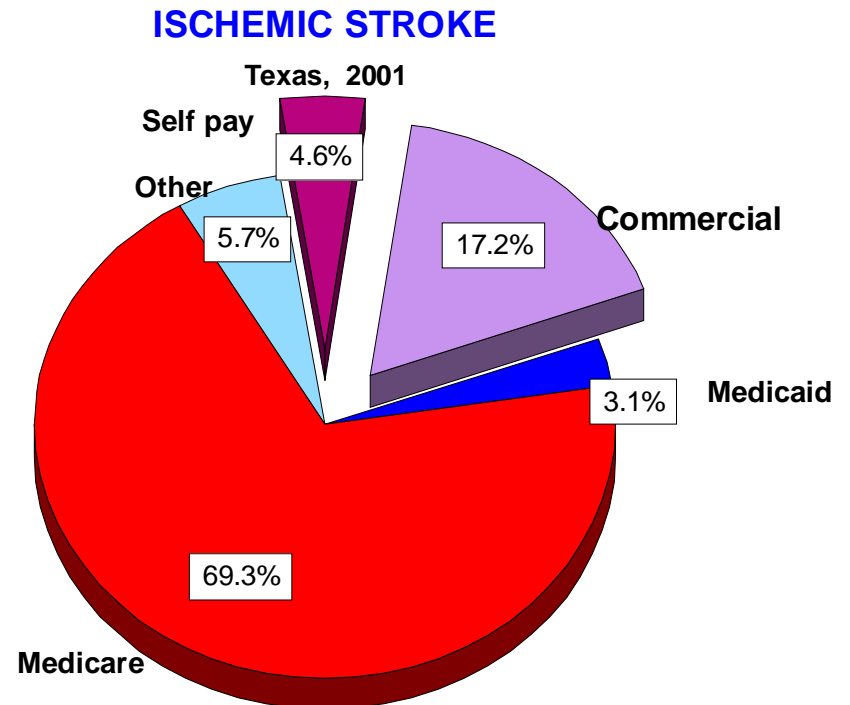
Total Hospital Charge (2001) =
\$4,405,183,000

ISCHEMIC STROKE

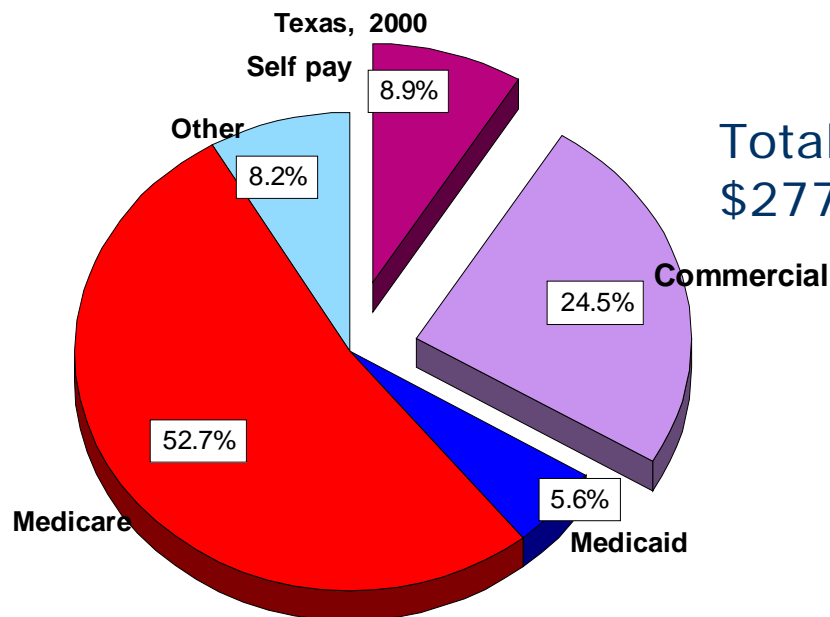


Total Hospital Charge (2000) =
\$906,349,100

Total Hospital Charge (2001) =
\$1,061,718,000



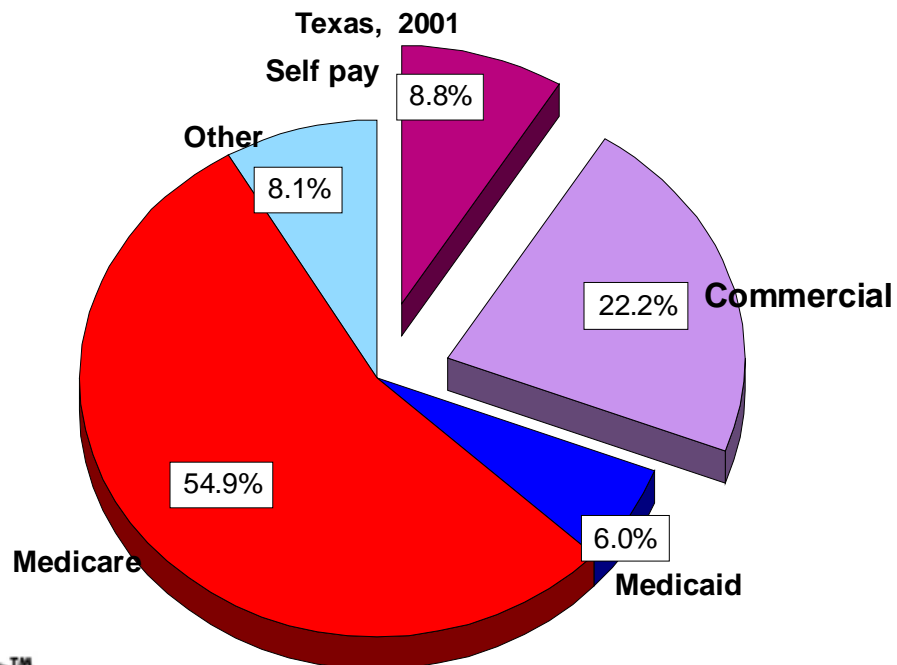
HEMORRHAGIC STROKE



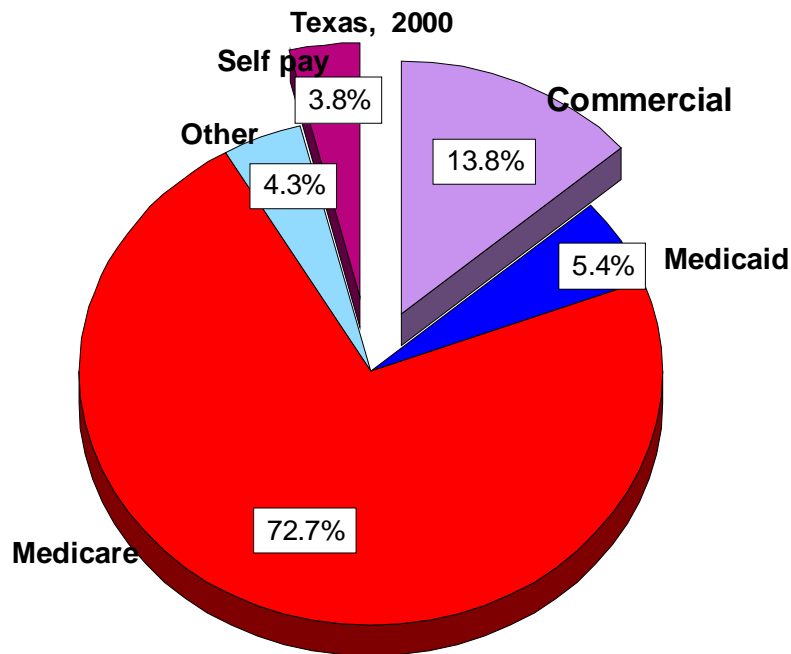
Total Hospital Charge (2000) =
\$277,946,000

Total Hospital Charge (2001) =
\$335,220,500

HEMORRHAGIC STROKE



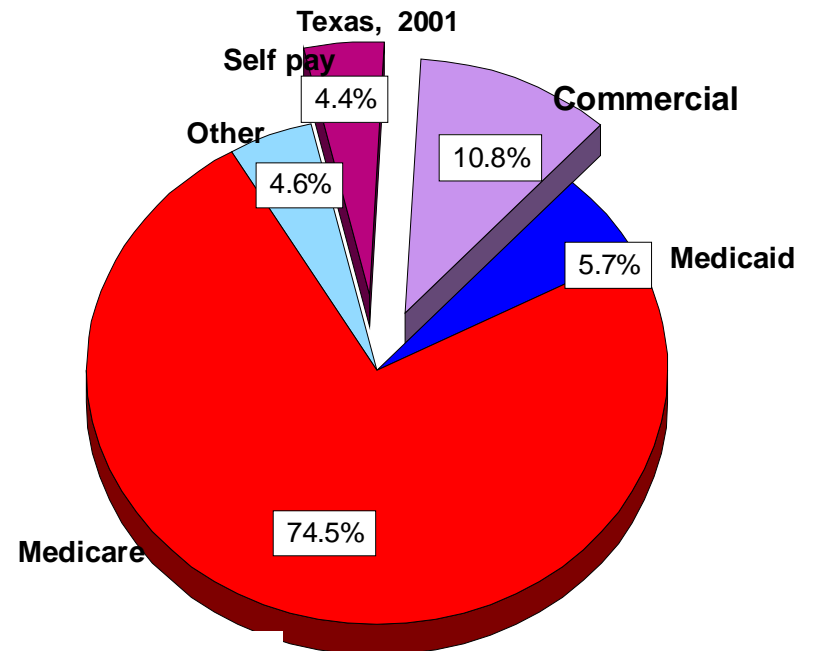
CONGESTIVE HEART FAILURE



Total Hospital Charges (2000) =
\$1,092,953,000

Total Hospital Charges (2001) =
\$1,307,297,000

CONGESTIVE HEART FAILURE





Risk Factor Surveillance



Medical and Behavioral Risk Factor Data

- ◆ The percentage of population (prevalence) that reported a type of behavioral risk factor (e.g., smoking) and utilized clinical preventive services (e.g., mammography) are **estimates** from the **Texas Behavioral Risk Factor Surveillance System (BRFSS)** for Texas residents at least 18 years of age.

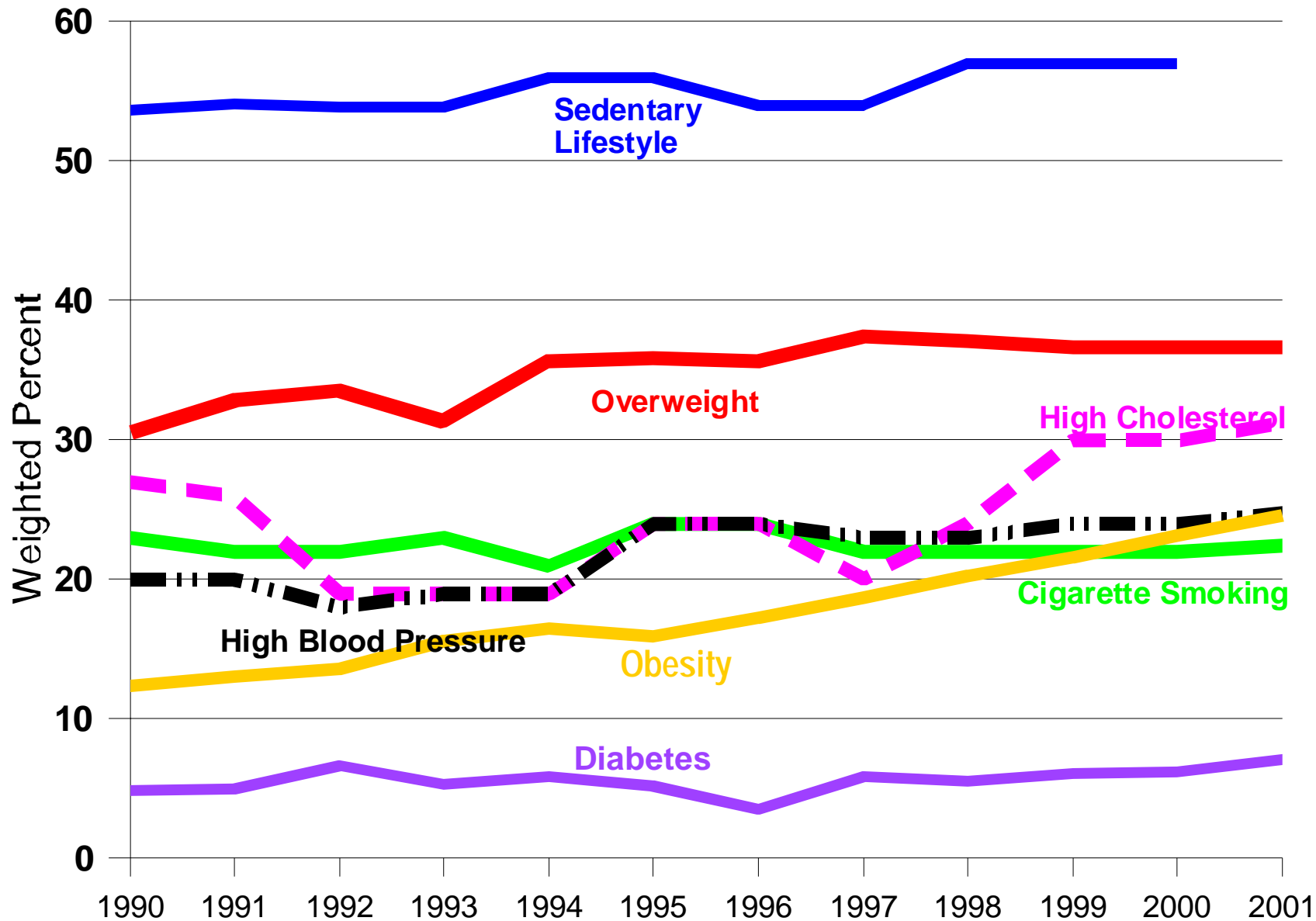
BRFSS

- ◆ Ongoing telephone survey sponsored by TDH in partnership with CDC
- ◆ About 500 randomly selected Texans 18 years or older are asked questions about their health habits

BRFSS

- ◆ Behavioral Risk Factors
- ◆ Medical Risk Factors
- ◆ Preventive Health Practices

Trends in Selected Risk Factors -- 1990-2001



Behavioral Risk Factors

- ◆ Cigarette Smoking
- ◆ Overweight/Obesity
- ◆ Lack of Physical Activity
- ◆ Poor Nutrition

Adult Cigarette Smoking Prevalence – 2002

Overall	22.8%
Males	26.7%
Females	19.2%
Whites	25.1%
African Americans	22.0%
Hispanics	18.9%

Cigarette Smoking Among Youth

Prevalence – 2001

	Middle School	High School
Overall	10.2%	24.7%
Males	11.4%	28.1%
Females	9.0%	21.3%
Whites	8.2%	26.9%
African Americans	6.5%	13.5%
Hispanics	14.5%	26.8%

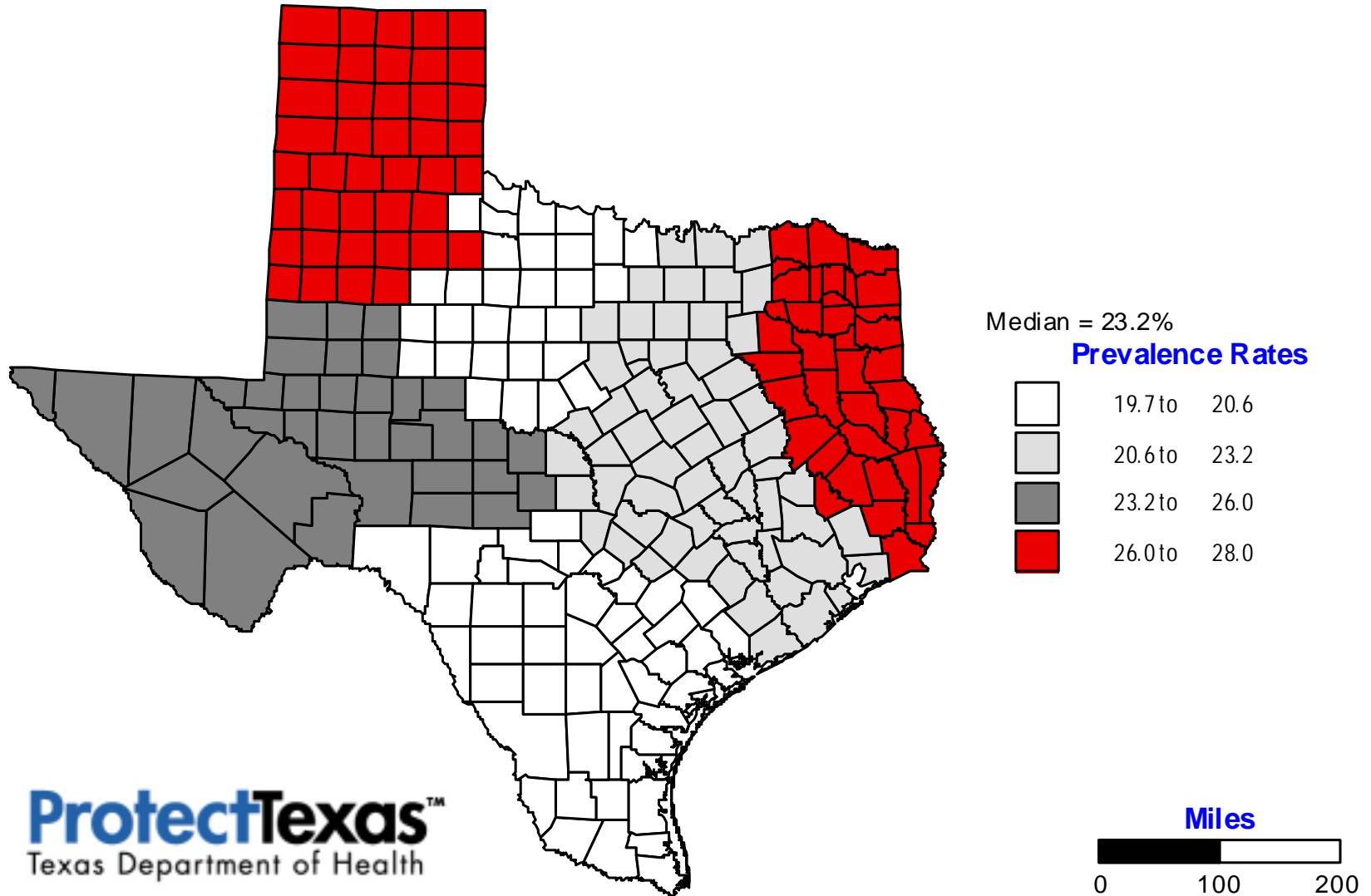
Cigarette Smoking

Regional Differences

Cigarette Smoking Among Adults

3-year Average Prevalence Data

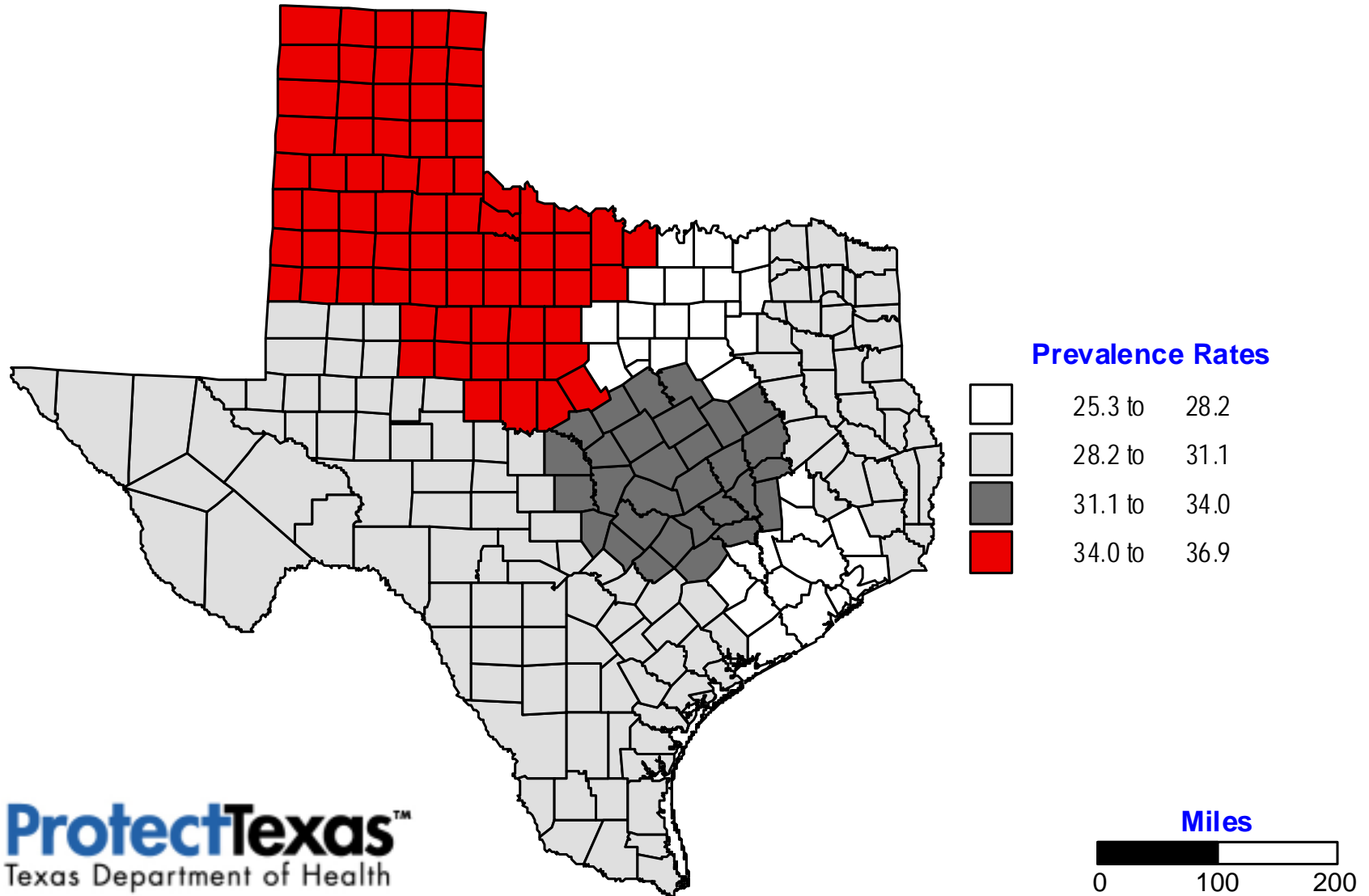
Texas, 1999-2001



Cigarette Smoking Among High School Students

2-year Average Prevalence

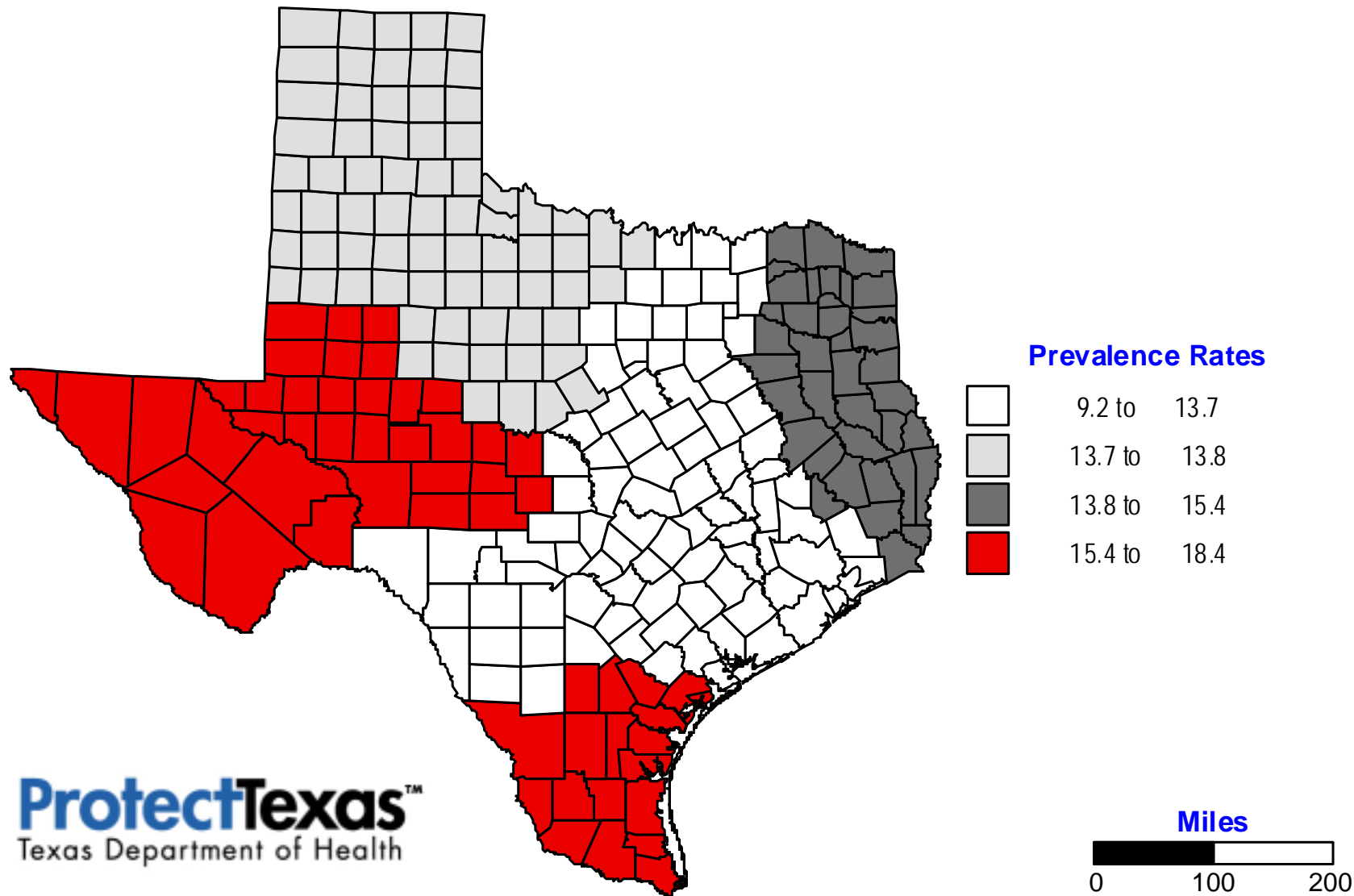
Texas, 1999-2001



Cigarette Smoking Among Middle School Students

2-year Average Prevalence

Texas, 1999-2001





Overweight/Obesity



Overweight /Obesity Prevalence – 2002

	Overweight BMI 25-29.9	Obesity BMI ≥ 30.0
Overall	36.0%	27.5%
Males	43.3%	26.7%
Females	28.7%	28.3%
Whites	35.7%	24.1%
African Americans	33.2%	43.0%
Hispanics	38.5%	31.8%

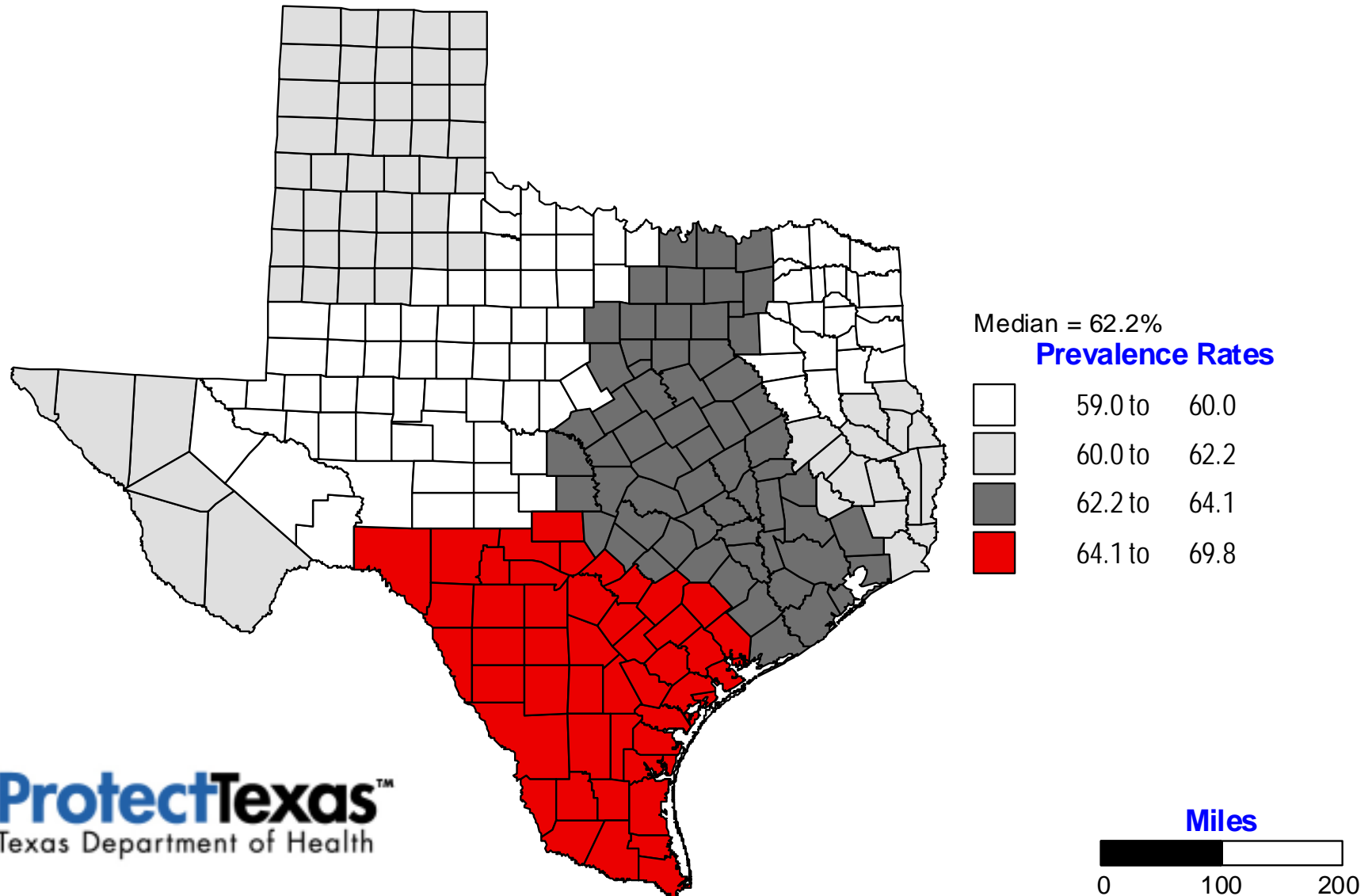
Overweight/Obesity

Regional Differences

Overweight/Obesity Among Adults

% of Respondents who report that their Body Mass Index is 25 or more

Texas, 2002



Lack of Physical Activity

- ◆ Regular physical activity greatly reduces a person's risk of dying for heart disease and decreases the risk for colon cancer, diabetes and high blood pressure

Lack of Leisure Time Physical Activity* Adults, 18 years and over Prevalence – 2002

Overall	29.2%
Males	26.3%
Females	32.0%
Whites	22.5%
African Americans	26.8%
Hispanics	42.8%

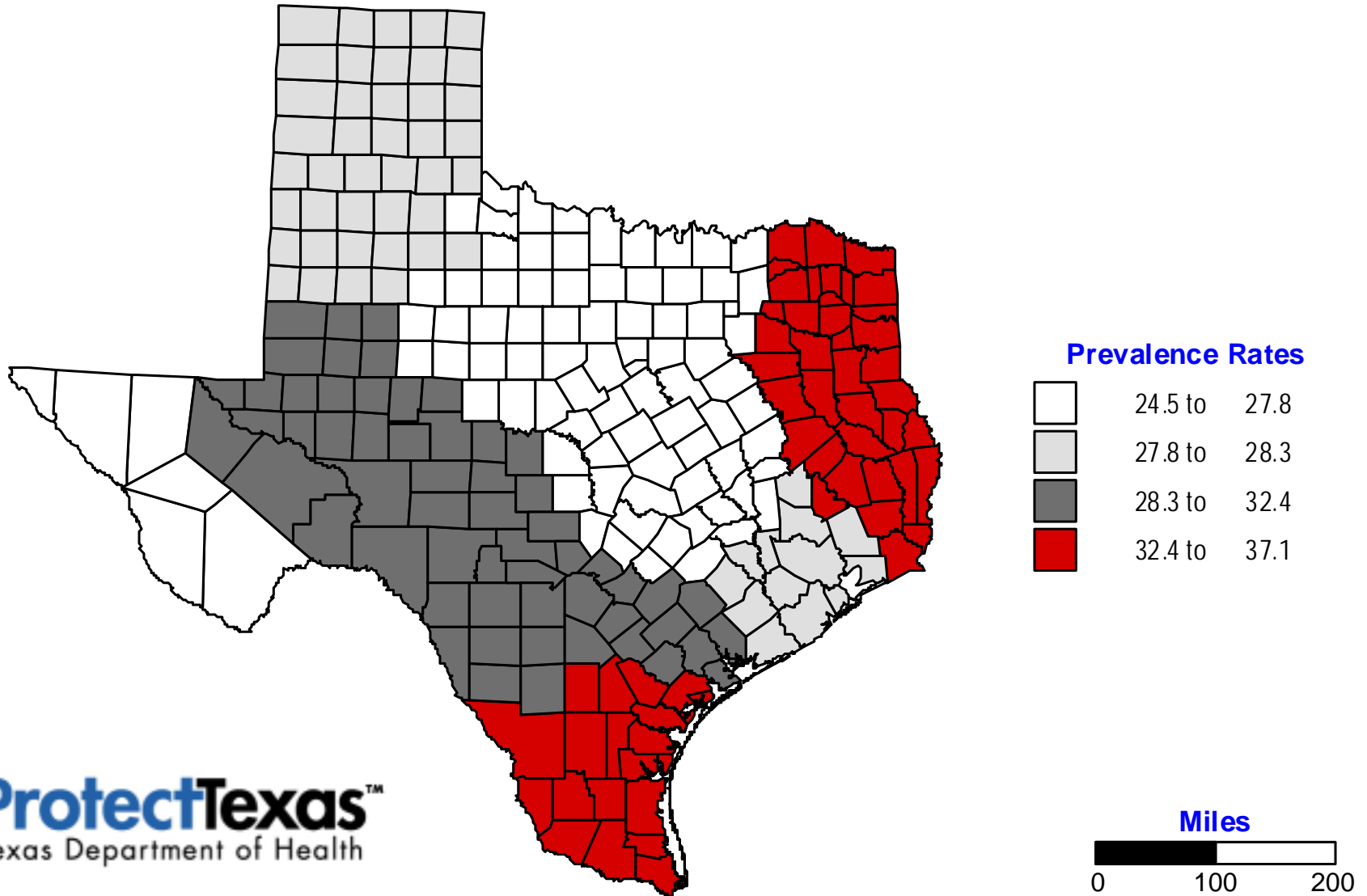
- During the past 30 days, did you participate in any physical activities or exercise?
- % of adults who did not participate in any physical activities during the past 30 days

Lack of Leisure Time Physical Activity

Regional Differences

Lack of Physical Activity Among Adults

Texas, 2002



Poor Nutrition

- ◆ Good nutrition, including a diet that is low in saturated fats and contains five or more servings of fruits and vegetables each day, plays a key role in maintaining good health
- ◆ Improving the American diet could extend the productive life span of Americans and reduce the occurrence of chronic diseases

Poor Nutrition*

Adults, 18 years and over

Prevalence – 2002

Overall	73.2%
Males	78.3%
Females	68.4%
Whites	73.2%
African Americans	72.5%
Hispanics	74.7%

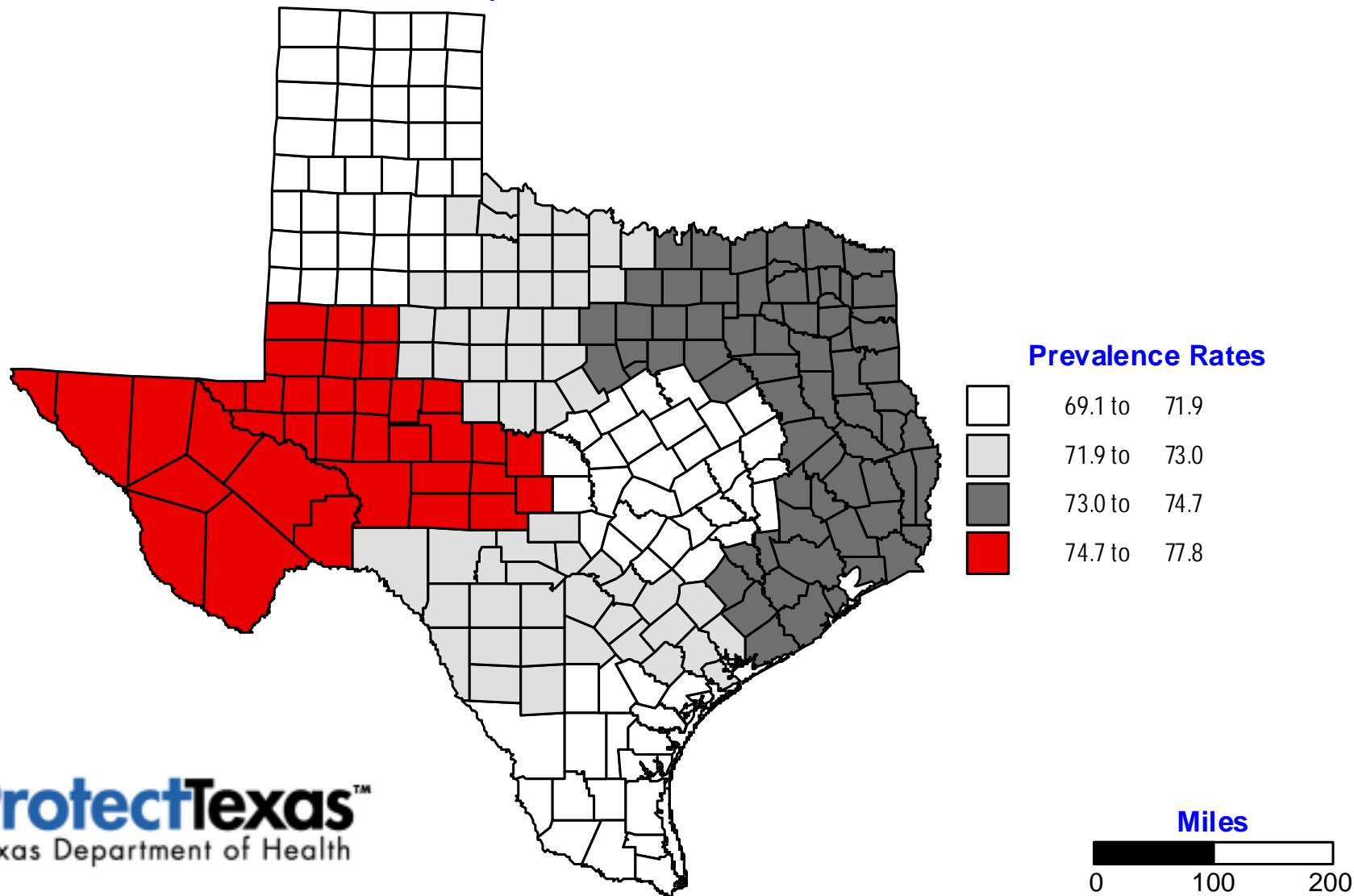
Poor Nutrition

Regional Differences

Poor Nutrition Among Adults

Not Eating Recommended Amounts of Fruits and Vegetables

Texas, 2002





Texas YRBS 2001



Assessing Health Risk Behaviors Among Young People:

Survey Summary

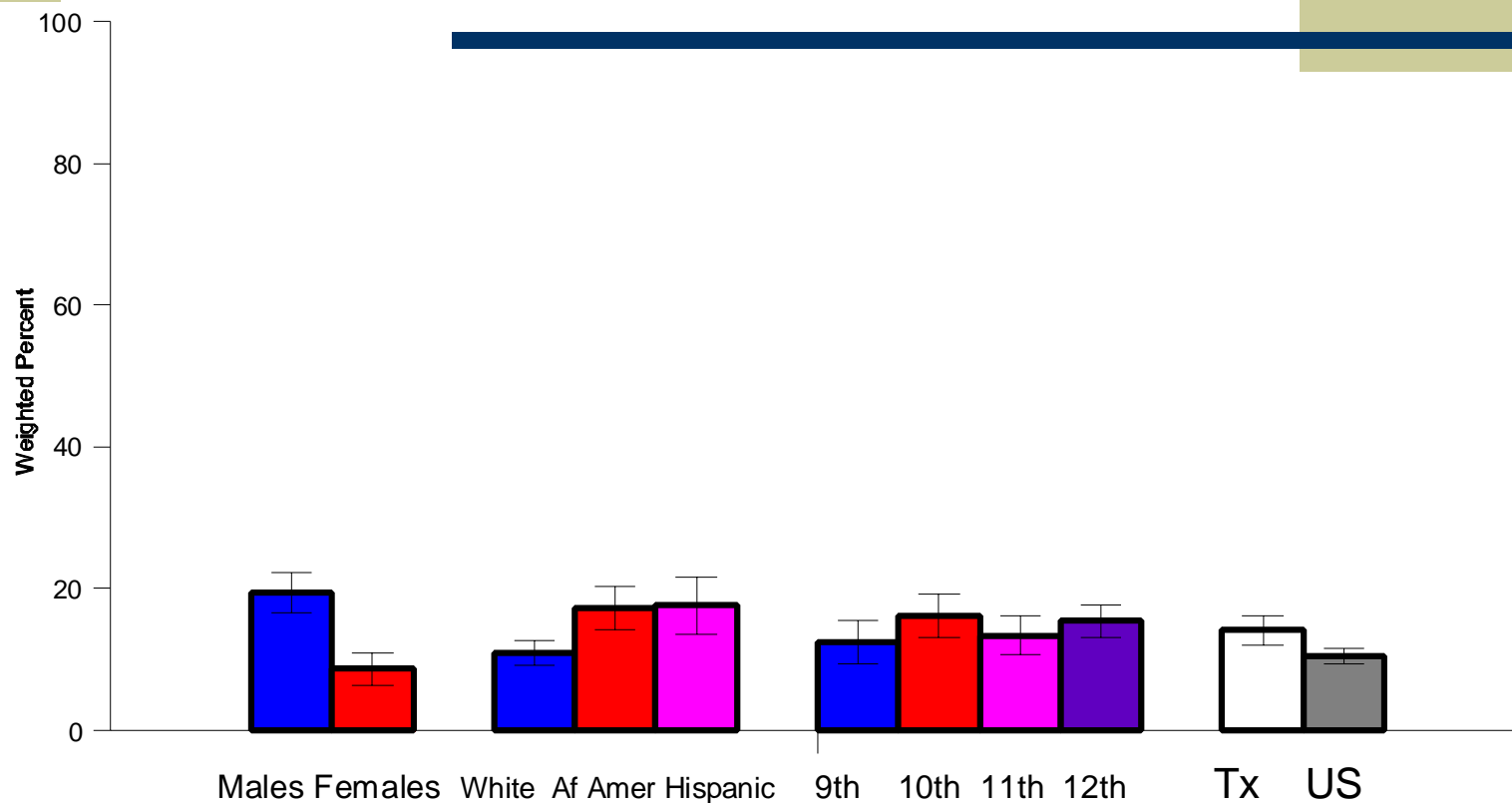
- Completed by 7,067 students
- 91 public high schools
- School response rate = 80%
- Student response rate = 79%
- Overall response rate = 63%
- Results are representative of all students in grades 9-12



Dietary Behaviors

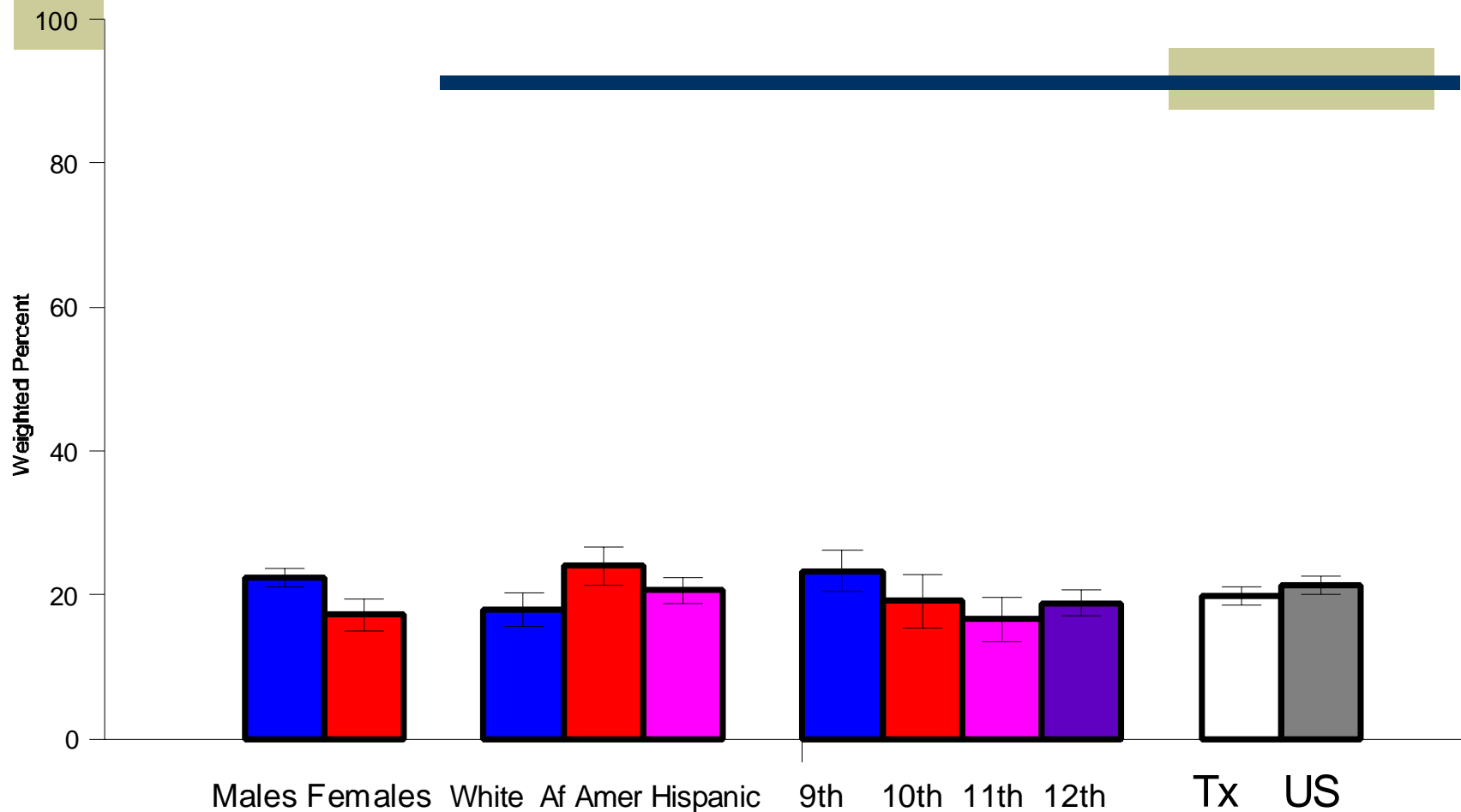


OVERWEIGHT*



*% of students who are overweight (Students who were at or above the 95th percentile for body mass index by age and sex based on reference data from the NHANES I.)

ATE ≥ 5 SERVINGS OF FRUITS AND VEGETABLES*

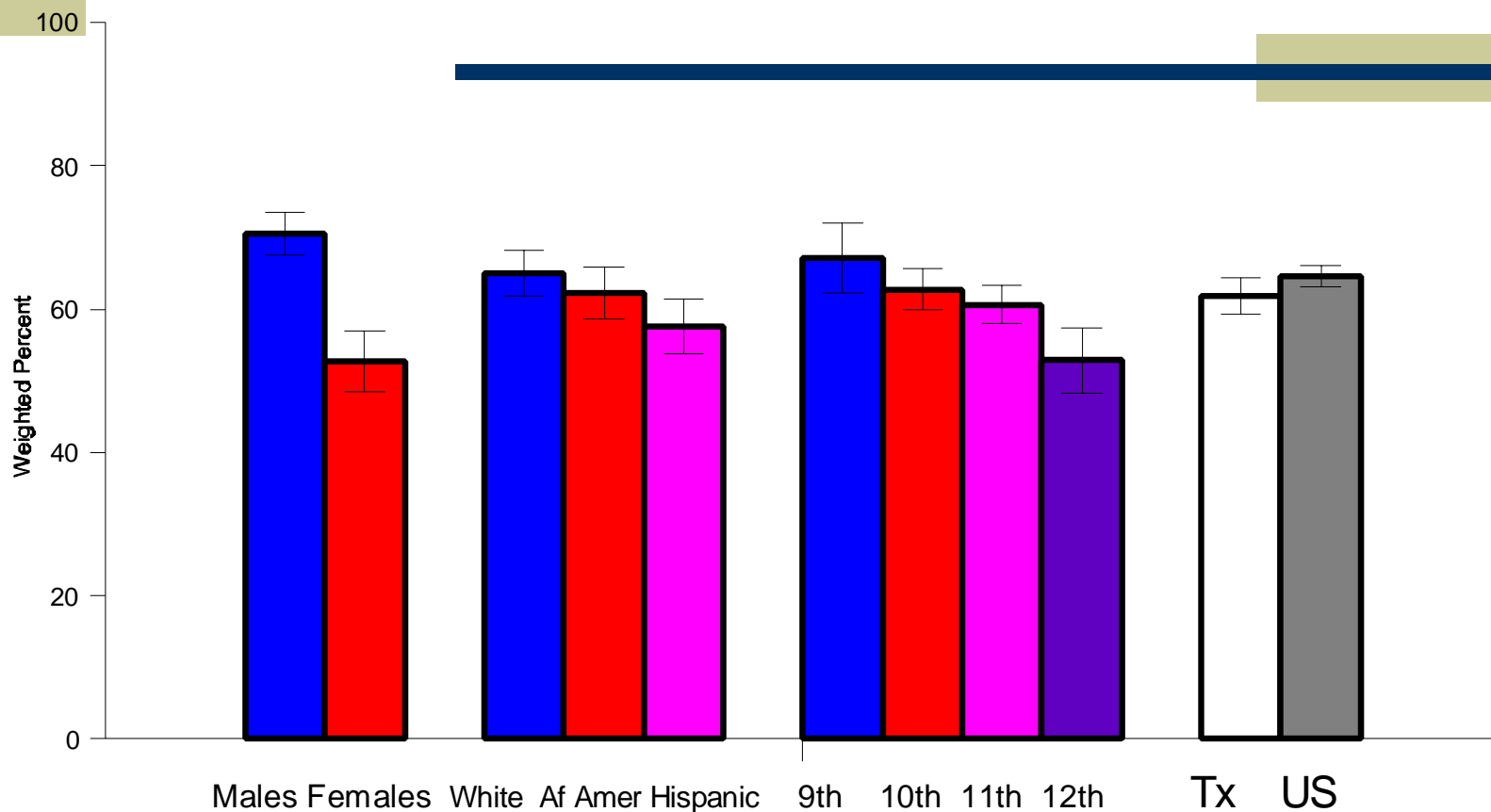


*% of students who ate five or more servings of fruits and vegetables per day during the past 7 days

Physical Activity

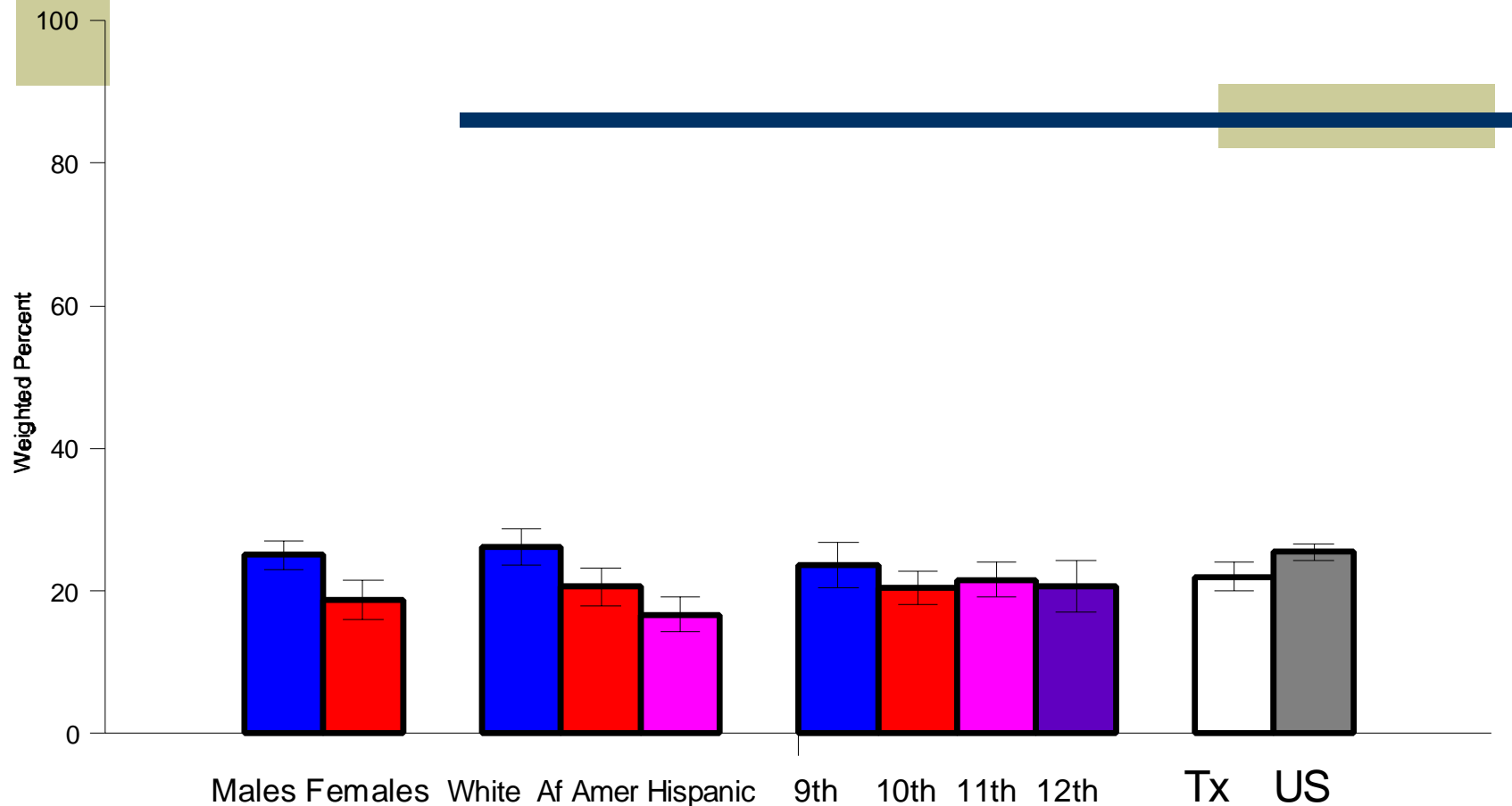


SUFFICIENT VIGOROUS PHYSICAL ACTIVITY*



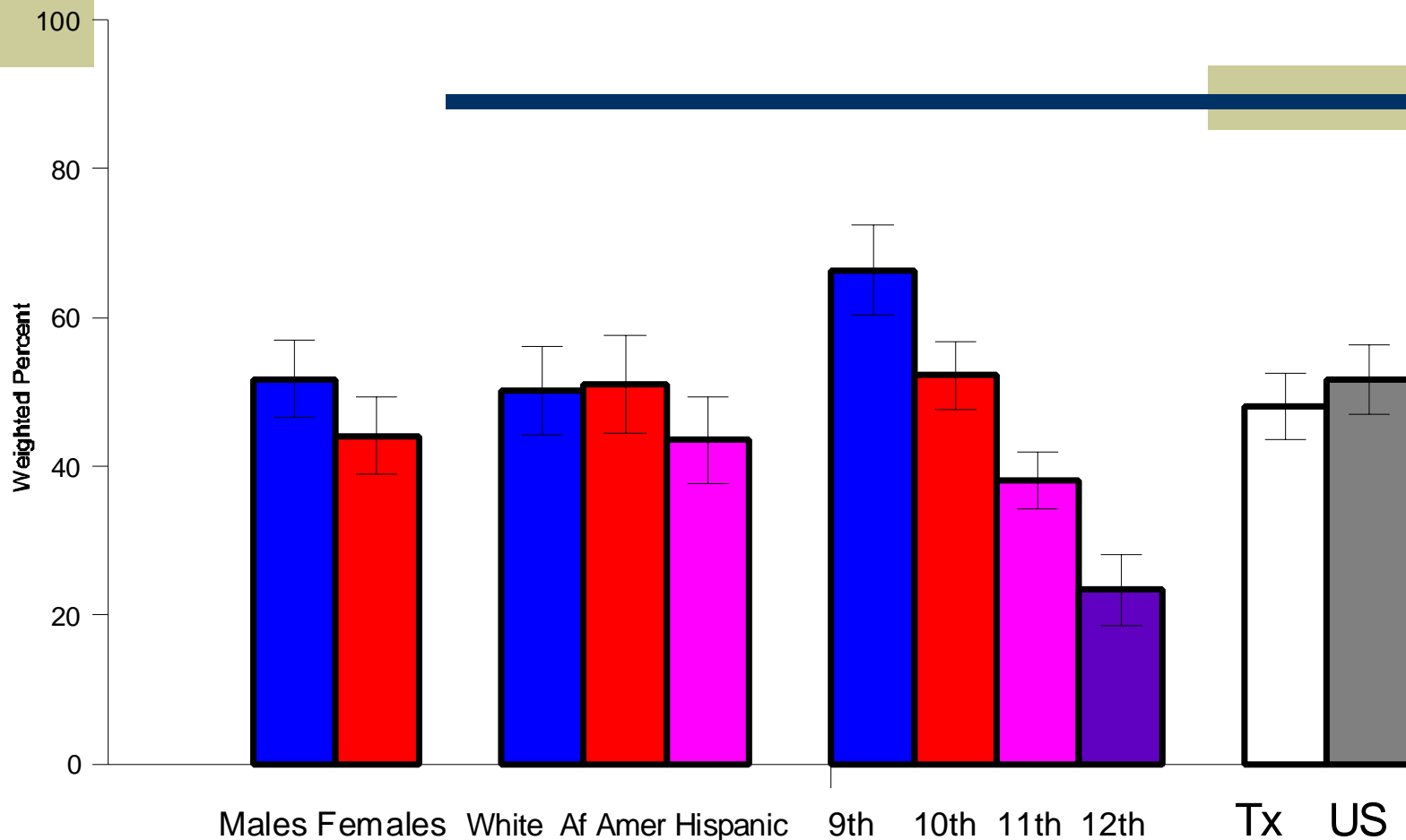
*% of students who exercised or participated in physical activities for at least 20 minutes that made them sweat and breathe hard on three or more of the past 7 days

SUFFICIENT MODERATE PHYSICAL ACTIVITY*



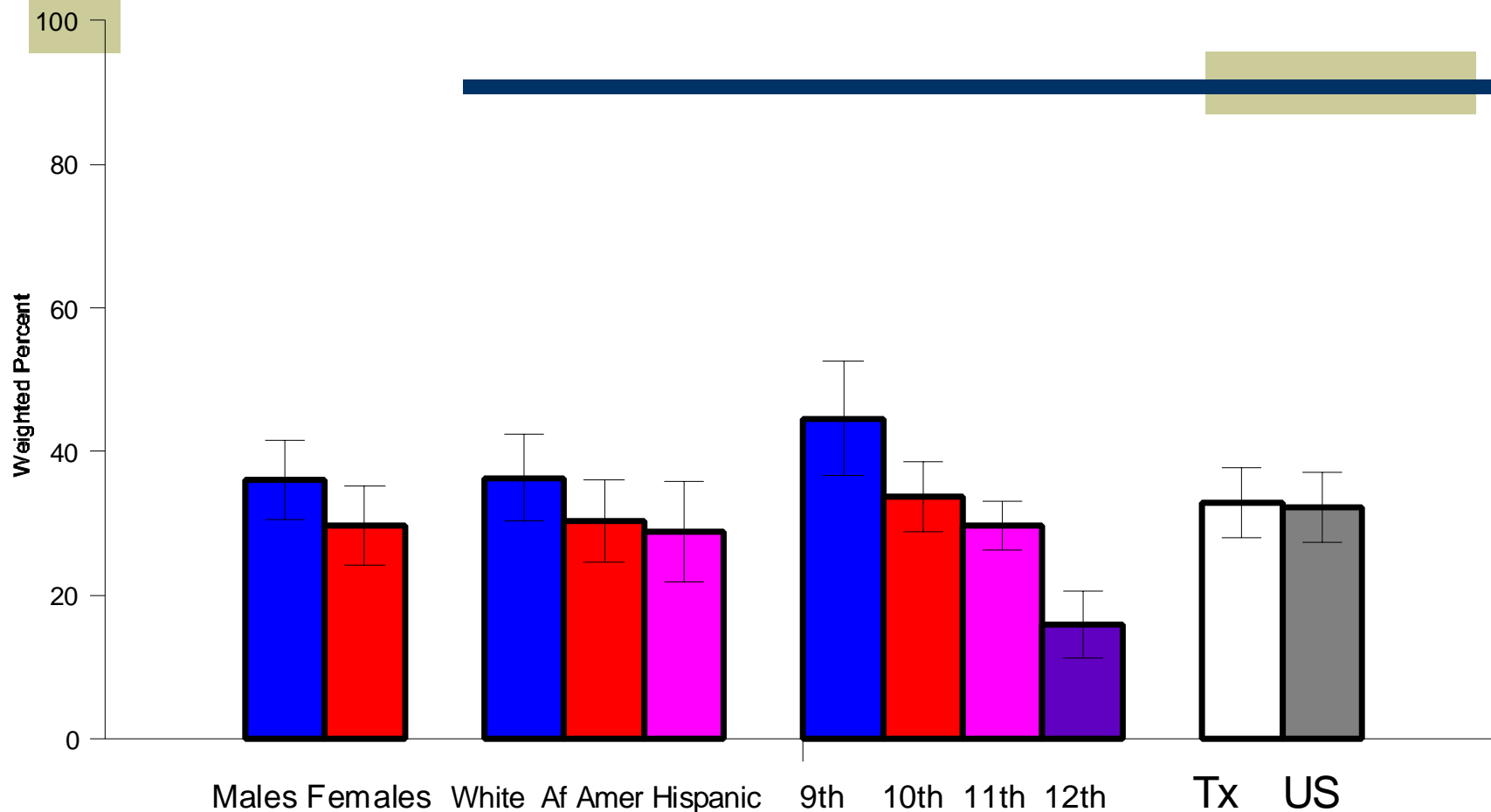
*% of students who participated in physical activities that did not make them sweat or breathe hard for at least 30 minutes on five or more of the past 7 days

ENROLLED IN PE CLASS*



*% of students who attended PE class one or more days during the average school week

ATTENDED PE CLASS DAILY*



*% of students who attended PE class daily

Medical Risk Factors

Diabetes

High Cholesterol

High Blood Pressure

Diabetes Prevalence – 2002

Overall	7.0%
Males	6.6%
Females	7.3%
Whites	6.5%
African Americans	10.9%
Hispanics	6.6%

High Cholesterol Prevalence – 2002

Overall	31.8%
Males	32.2%
Females	31.4%
Whites	35.2%
African Americans	29.2%
Hispanics	24.5%

High Blood Pressure Prevalence – 2001

Overall	25.6%
Males	23.8%
Females	27.3%
Whites	28.1%
African Americans	35.7%
Hispanics	18.9%

HEDIS

Health Plan Employer Data and Information Set

HEDIS

- ◆ Standardized performance measures designed for comparing the quality of care of managed care organizations

HEDIS*

*Straight Talk on Texas HMOs: A Purchaser's Guide. THCIC

Measures	<u>%</u> 2000	<u>%</u> 2001
Controlling High BP	47.8%	50.9%
Beta Blocker Treatment After a Heart Attack	-	90.3%
LDL-C Screening	72.4%	76.2%
Advising Smokers to Quit	46.2%	-